Exhibit No.:
Issue: Depreciation
Witness/Type of Exhibit: John J. Spanos/Rebuttal
Sponsoring Party: Missouri-American Water Company
Case No.: WR-2010-0131
Date: April 15, 2010

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2010-0131

Rebuttal Testimony of

JOHN J. SPANOS

on Behalf of

MISSOURI-AMERICAN WATER COMPANY

Jefferson City, Missouri

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF MISSOURI-AMERICAN WATER COMPANY FOR AUTHORITY TO FILE TARIFFS REFLECTING INCREASED RATES FOR WATER AND SEWER SERVICE	)))))	**CASE NO. WR-2010-0131** **CASE NO. SR-2010-0135**

AFFIDAVIT OF JOHN J. SPANOS

John J. Spanos being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of John J. Spanos" that said testimony and schedules were prepared by him and/or under his direction and supervision; that if inquires were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge.

John J. Spanos

Commonwealth of Pennsylvania
County of Cumberland
SUBSCRIBED and sworn to
Before me this 14th day of April 2010.

Notary Public

My commission expires:

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cheryl Ann Rutter, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2011
Member, Pennsylvania Association of Notaries

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MISSOURI-AMERICAN WATER COMPANY

DIRECT TESTIMONY OF
JOHN J. SPANOS

Line No.

INTRODUCTION

1. Q. Please state your name and address.

A. John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

2. Q. Have you previously submitted testimony in this proceeding?

A. Yes, I have. My direct testimony and Exhibit No. JJS-1 were submitted with the rate filing of Missouri-American Water Company (referred to herein as "the Company") on November 1, 2009.

3. Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Guy C. Gilbert of the Missouri Public Service Commission Staff (Staff).

4. Q. What are the subjects of your rebuttal testimony?

A. The subjects of my rebuttal testimony are the use of life spans of major facilities, the remaining life method of depreciation, and the utilization of general plant amortization.

5. Q. Do these subjects impact all asset classes equally?

A. No, they do not. Some asset classes are only affected by one subject and others by multiple subjects. However, the difference between Staff's proposal and my depreciation study in annual expense is primarily due to the lifespan approach and the remaining life method. Consequently, the magnitude of the

difference is not as much a concern of this rebuttal as the concepts, methods and parameters of how depreciation is being calculated going forward.

THE LIFE SPAN PROCEDURE

6. Q. Explain the importance of the life span procedure.

A. The use of the life span procedure is the most appropriate method for matching recovery of plant in service to the life characteristics of assets at major structures. For example, the life characteristics of assets at a treatment plant will experience some interim retirements over the life of the facility and then many assets will be concurrently retired at final retirement. Therefore, capital recovery should reflect these life characteristics, which can only be accomplished with a life span component in the depreciation parameters. In many cases, the life span is an estimate far into the future until management determines the facility needs to be replaced or retired. If you wait until management determines the actual date, then intergenerational inequities will occur over the last few years when depreciation is drastically increased to obtain full recovery at the time of recovery. The lack of a life span and consequential depreciation recovery flaw is quite obvious if we review the history of the St. Joe treatment plant.

7. Q. Are there any other issues relating to Staff's proposal relating to accounts you have utilized the life span approach?

A. Yes, there are. Staff's proposal of calculating rates with the use of my interim survivor curve without the use of the life span approach is inaccurate, because Staff has ignored the many retirements associated with final retirement of a facility. Therefore, if you eliminate the life span approach, you

must analyze life characteristics as though all plant in service is part of a mass account. Consequently, the proposed life for Accounts 304.20, Structures and Improvements – Power and Pumping; 304.30, Structures and Improvements – Water Treatment; and 306. Lake, River and Other Intakes must be shorter than what Staff has proposed in order to include all retirements. Additionally, final retirements for Accounts 304.80, Structures and Improvements - Miscellaneous and 309.0, Supply Mains, should be included in the life analyses.

8. Q. Can you explain the flaws in Staff's life estimates?

A. Yes, I can. Staff has attempted to compare my interim survivor curves with truncation to their survivor curves without properly analyzing all the data. The life analyses in the Depreciation Study for Accounts 304.20, 304.30 and 306, represent an interim survivor curve, and therefore, only interim retirements are considered when determining the survivor curve. This is an important distinction because all final retirements, such as those related to the St. Joseph plant final retirement, were not considered. A critical focus in the analyses for these accounts which should be truncated, and thus, should have recovery with a concurrent date. Consequently, if Staff is going to ignore the life span approach in recovery, then their analyses must reflect the St. Joseph retirements for life analyses. The retirements coded as final for Account 304.20, 304.30 and 306 in the service life file equals $2,067,689 as compared to the regular (interim) retirement of $1,986,768. In addition to these three life span accounts, retirements in Accounts 304.61, Structures

and Improvements – Office Buildings, 304.80 and 309.00 were coded as final since these accounts are quite often life spanned in other jurisdictions.

With this necessary correction that Staff would need to make to their life analyses, the revised life tables and survivor curves without truncation for each of the accounts discussed above are set forth to this testimony as JJS-R2. The recommended survivor curves using this approach as compared to the depreciation study are as follows:

Account	Depreciation Study Survivor Curve	Rebuttal Testimony Survivor Curve
304.20	75-R2.5	70-R2
304.30	80-R3	70-R3
304.61	50-R1	35-S0.5
304.80	50-R2.5	30-S0.5
306.00	65-R1.5	35-L0.5
309.00	70-R3	60-R3

Therefore, if Staff is recommending to ignore the life span procedure, then all retirements must be considered in their analyses. As can be seen from the attached curves and life tables, the life characteristics are quite different.

9. Q. Has the life span approach been in effect for some of the assets?

A. Yes, it has. The life span approach was utilized and approved for some of the facilities in the old St. Louis County Operations.

10. Q. What are your conclusions regarding the use of the life span approach?

A. During the life of a water facility, interim additions, replacements, and retirements occur regularly. At the time of the final retirement of a water facility, all of the structures and equipment are retired, regardless of whether they were part of the original installation or were added as recently as a year or two prior to the plant's retirement. The life span approach reflects the

unique average lives that are experienced by each year of installation at a water facility by recognizing the period of time between each installation and the final retirement of the plant. Conversely, Staff's approach of applying a single average life or average survivor curve to all installation years of an entire water facility account does not recognize the unique survivor characteristics of each installation year. For example, the Parkville facility began operation in 1960 and there have been subsequent plant additions made each year since 1960 in Account 304.3, Structures and Improvements – Water Treatment. For these plant additions, 1960 through 2008, there is a unique service life and survivor curve for each vintage under the life span approach for a total of 49 different survivor curves. Under the Staff's approach, there is **one** average service life and survivor curve used to describe the life characteristics of all assets within Account 304.3, Structures and Improvements – Water Treatment, at Parkville. Further, the use of a single average life is only applicable for one year, as with each year of betterments and replacements, the overall average life of the water facility changes. Thus, depreciation based on the use of the life span approach, rather than the use of a single average life, results in a more accurate reflection of the loss in service value of a water facility.

11. Q. Please describe what you mean by the term "depreciation".

A. "Depreciation", as defined in the Commission's Uniform System of Accounts (USOA), refers to the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which can be

reasonably anticipated or contemplated, against which the Company is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities. Depreciation accrual rates are used to allocate, for accounting and ratemaking purposes, the service values of assets over their service lives. As a result, each year of service and each generation of customers are charged with the portion of the asset that it or they consume or use.

12. Q. Does the Uniform System of Accounts prescribe a method of Depreciation Accounting?

A. Yes. The Uniform Systems of Accounts for water companies includes General Instruction 11, Accounting to be on accrual basis, which states "The utility is required to keep its accounts on the accrual basis." Further, General Instruction 22, Depreciation Accounting, of the water system states "Utilities must use a method of depreciation that allocates in a systematic and rational manner the service value of depreciable property over the service life of the property." (Emphasis added).

13. Q. Based on the instructions in the Uniform System of Accounts, what do you conclude that it requires regarding the allocation of service value of water facilities?

A. The USOA requires that the allocation of service value be systematic and rational. The allocation of water facility costs based on a single average life that cannot possibly be correct and is not rational since some of the initial plant equipment installed on day one of plant's life will survive for the full life

span of the plant, while subsequent additions will not be in service for as long as the initial additions. The allocation of water facility costs using the life span approach in which the lives of each installation year reflect the concurrent retirement of all facilities at the end of the plant's life is rational and, therefore, compliant with the USOA.

14. Q. Do authoritative texts on depreciation support your conclusion that the service value of water facilities should be allocated based on the use of the life span approach?

A. Yes, they do. Authoritative texts on the subject of depreciation support the proposal to use the life span approach for power plants. Public Utility Depreciation Practices, published in 1996 by the National Association of Regulatory Utility Commissioners states:

Life span property generally has the following characteristics:

1. Large individual units,
2. Forecasted overall life or estimated retirement date,
3. Units experience interim retirements, and
4. Future additions are integral part of initial installation.

The following classes of utility property may be most appropriately studied under this method, taking into consideration the availability of plant accounting data, and particularly the number of units of property involved: buildings, electric power plants.[1]

Depreciation Systems states:

> Depreciation professionals use the term life span to describe both a unit of property and a group of property that will be retired as a unit. Examples of a unit of property are a hydroelectric dam or the building housing electrical generating equipment. Examples of a group of property that will be retired as a unit include the turbines, generators, and other equipment used to generate electrical power and housed in either the dam or building. The dispersion pattern of retirements from

[1] Public Utility Depreciation Practices. Page 141. National Association of Regulatory Utility Commissioners. 1996.

> a group of life span property differs from the pattern of other (mass) property, because much of the life span property is retired simultaneously (unlike mass property). The resulting survivor curve is truncated (and instantaneously reaches zero percent surviving) rather than gradually curving to zero percent surviving.[2]

15. Q. What method for allocation of water facility service value has Missouri American Water Company (MAWC) proposed in this proceeding?

A. MAWC has proposed, consistent with authoritative texts and the USOA, the use of the life span method of allocating the service value of water facilities over the life of the facility.

16. Q. Please describe the addition and retirement activity that occurs during the course of a water facility's life span.

A. The first addition at a water facility is its initial construction, a substantial expenditure. Throughout the life of this initial expenditure, betterments and replacements take place. For example, after the initial installation in 1960, many capital expenditures have taken place at Parkville each year, representing a. betterment. Also, many of the capital expenditures included a retirement or replacement of original investment. The retirement of a portion of the original investment represents an interim retirement. This type of activity occurs in almost every year of a water facility's life span in varying degrees of magnitude. Interim plant additions are made for various reasons, at times to replace worn or unreliable components of the facility and other times made to comply with new water quality standards. After a period of 60, 70 or more years, it becomes uneconomic to continue to make improvements to keep the facility running and the entire facility is retired. This retirement

[2] Depreciation Systems, Wolf, Frank K. and W. Chester Fitch. Page 255. Iowa State University Press. 1994.

includes the original construction as well as all of the interim betterments and replacements.

17. Q. Given this pattern of additions and retirements, how can the survivor characteristics of water facility be described?

A. The survivor characteristics of water facilities can be described through the use of interim survivor curves truncated at the date of final retirement of the entire facility. The interim survivor curve describes the rate of interim retirements from the date of installation to the date of final retirement. These interim retirements are the result of retirements of equipment with lives that are less than the overall life span of the plant. These retirements would be of items such as pumps, motors, control equipment and numerous other items. The interim survivor curve, graphically depicted, begins at 100 percent surviving at the date of installation and decreases gradually throughout most of the life span. At the date of final retirement, the interim survivor curve is truncated, reducing the percent surviving to 0 percent. The age at which truncation occurs is different for *every* year of installation, resulting in a different average service life for each vintage.

18. Q. Do the final retirement dates represent a date certain for the retirement of the plants?

A. No, it does not. The estimated final retirement dates should not be interpreted as a firm commitment to retire these plants on these dates, but rather, as reasonable estimates based on currently available information. The estimated final retirement dates, like other estimates used for capital recovery purposes, are subject to modification in the future as circumstances

dictate. The estimated final retirement dates are based on current information and a consideration of all relevant factors. The nature of using estimates is that there is always a degree of uncertainty associated with them. The only time you can precisely determine the service life of an asset or facility is after it has been retired and you can look back and state with certainty that the pumping equipment was in service for 35 years. However, for purposes of determining appropriate depreciation rates we need to estimate things like service lives and net salvage percents.

19. Q. Is it necessary for management to have replacement plans in effect for these units in order to estimate a final retirement date?

A. No, it would be premature for management to be making such plans at this point in time. Such plans need not occur until the time to retirement approximates the lead time for construction of the replacement water facility. For water facilities, two to three years is a reasonable lead time.

20. Q. Has MAWC previously retired water facilities?

A. Yes, it has. The St. Joseph water treatment facility was retired in 2000.

21. Q. Do you believe that the plants currently in service can live indefinitely?

A. Absolutely not. Although the sites may be used for a significant period of time into the future, the depreciable assets will be retired as they become uneconomic due to deterioration, regulation, and obsolescence.

22. Q. Do customer equity considerations support the use of the life span method for water facilities?

A. Yes, they do. The life span method provides for a better match of depreciation expense with service value rendered than does the use of a single average survivor curve for all installation years.

23. Q. Please explain.

A. The life span method develops and uses a unique average service life for each installation year. As a result of the decision to cease operations at a water facility, all property of varying ages are retired concurrently. Therefore, the older installation years have longer average service lives than the younger installation years. Under the life span approach, the original cost of an older installation year is recovered during the average life of that installation year. The original cost of a younger installation year is recovered during its average life. In comparison, the use of a single average service life and survivor curve that is somewhere between the longer lives of the older installation year, and the shorter lives of the younger installation years, results in the over recovery of cost for the older installation years and the under recovery of cost for the younger installation years.

24. Q. What is the policy of other regulatory commissions regarding the life span approach for water facilities?

A. Virtually all other regulatory commissions use the life span approach for major facilities such as water treatment plants. Gannett Fleming has assisted utilities in all 50 states, 10 Canadian provinces and 3 Canadian territories and we are not aware of a jurisdiction that denies the life span approach for treatment facilities such as the Missouri Public Service Commission.

REMAINING LIFE METHOD

25. Q. Does the Depreciation Study JJS-1 present remaining life rates?

A. Yes, it does.

26. Q. Why are remaining life rates better than whole life rates?

A. The remaining life rates are developed to assure full recovery, no more and no less. There is no need to compare the theoretical reserve to the actual book reserve because it is already factored into the rate, and the remaining life rate of all surviving assets compensate for over or under recovered assets of the past. None of the past recovery issues are considered in the whole life method.

GENERAL PLANT AMORTIZATION

27. Q. Is the implementation of General Plant Amortization recommended in your depreciation study?

A. Yes, it is.

28. Q. Is general plant amortization widely utilized among utilities?

A. Yes, it is. General plant amortization was first implemented in 1991 in Florida. Since that time, almost all utilities across the United States and Canada have received approval and begun implementation of the methodology.

29. Q. What is the advantage of the implementation of general plant amortization?

A. There are two primary benefits to general plant amortization. First, the accrual rate will remain constant over time and thus, annual expense will be constant. Second, the need for continual asset inventories and extensive record keeping for many assets with little plant value will be gone. The assets

that are considered for general plant amortization represent less than three percent of the plant in service.

30. Q. Has Staff's whole life approach to general plant covered both benefits of general plant amortization?

A. No, it has not. The whole life rate does a good job of establishing a constant rate over time, but there are more benefits to general plant amortization. First, the whole life rate, as prescribed by Staff, does not insure full recovery of the assets unless each and every asset stays in service the same number of years as the rate has been established. Secondly, and probably more importantly, the Staff approach does not eliminate the incredible burden on the property departments of major inventories and continual record keeping of many assets with very little value.

SUMMARY

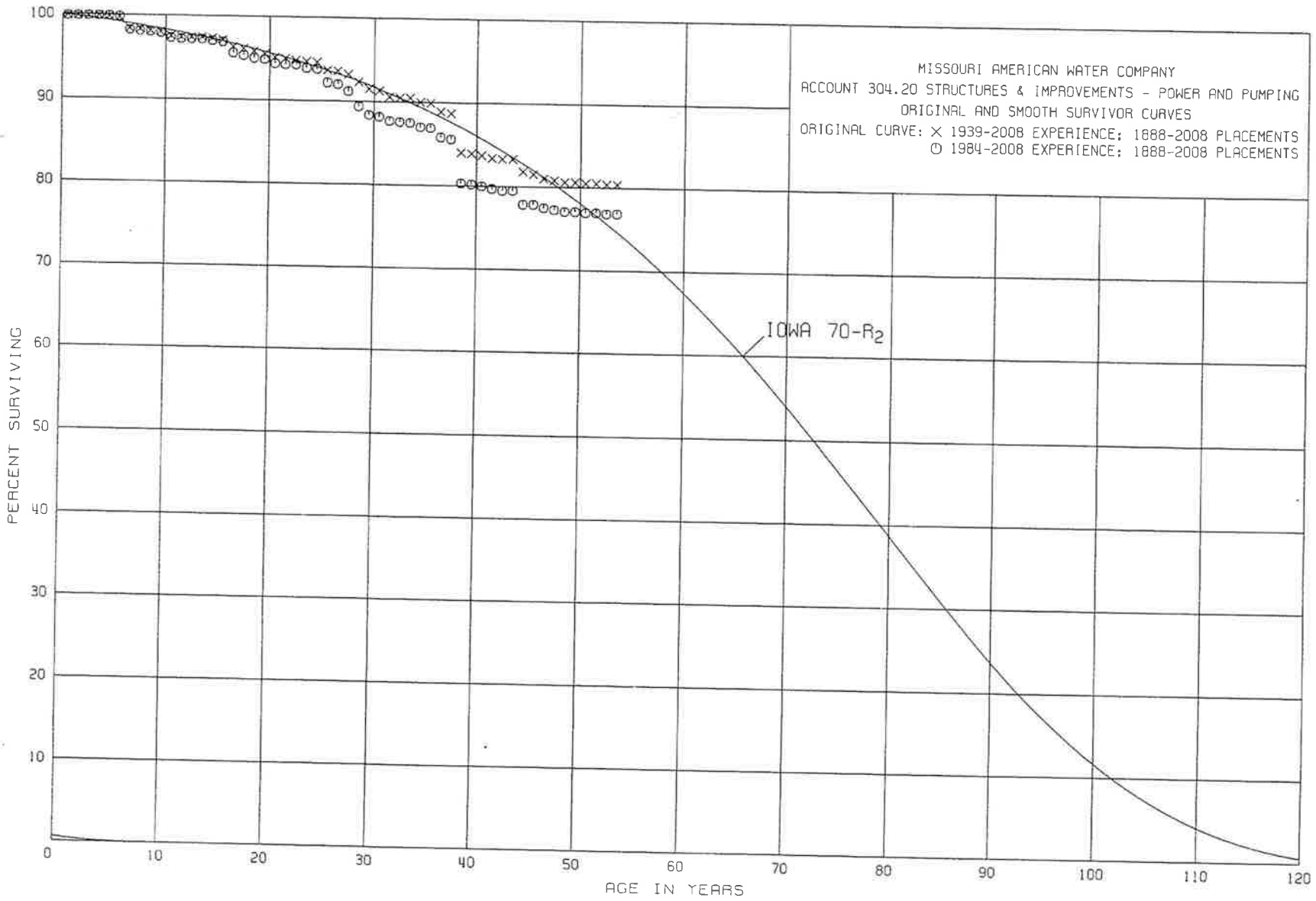
31. Q. Can you summarize your opinions regarding the depreciation issues?

A. The difference between Staff and the Company is small; however, deviation from my study to Staff's study must include a few revisions. First, if the life span procedure is not used then life estimates must include the appropriate data for Account 304.20, 304.20, 305 and 306. Second, the utilization of general plant amortization is a necessity for the property accounting department as the personnel cannot accurately keep track of all those small assets and complete their other duties.

32. Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

JJS-R2


MISSOURI AMERICAN WATER COMPANY
ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1939-2008 EXPERIENCE; 1888-2008 PLACEMENTS
O 1984-2008 EXPERIENCE; 1888-2008 PLACEMENTS
IOWA 70-R2
PERCENT SURVIVING
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
110
120

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE

AVG AGE RET 25.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	19,900,545	409	0.0000	1.0000	100.00
0.5	16,840,714	7,661	0.0005	0.9995	100.00
1.5	15,929,458	1,913	0.0001	0.9999	99.95
2.5	15,446,719	916	0.0001	0.9999	99.94
3.5	15,404,395	14,436	0.0009	0.9991	99.93
4.5	15,371,063	16,871	0.0011	0.9989	99.84
5.5	15,317,993	206,057	0.0135	0.9865	99.73
6.5	14,473,866	12,569	0.0009	0.9991	98.38
7.5	14,493,639	22,890	0.0016	0.9984	98.29
8.5	9,859,300	13,175	0.0013	0.9987	98.13
9.5	9,431,862	44,450	0.0047	0.9953	98.00
10.5	8,690,963	9,134	0.0011	0.9989	97.54
11.5	7,367,228	1,767	0.0002	0.9998	97.43
12.5	7,338,724	2,970	0.0004	0.9996	97.41
13.5	7,292,916	8,723	0.0012	0.9988	97.37
14.5	7,157,858	7,837	0.0011	0.9989	97.25
15.5	6,168,695	56,251	0.0091	0.9909	97.14
16.5	6,104,879	13,071	0.0021	0.9979	96.26
17.5	5,009,195	14,655	0.0029	0.9971	96.06
18.5	4,774,038	12,888	0.0027	0.9973	95.78
19.5	4,066,095	17,495	0.0043	0.9957	95.52
20.5	3,862,281	5,327	0.0014	0.9986	95.11
21.5	3,714,146	5,666	0.0015	0.9985	94.98
22.5	3,138,489	5,492	0.0017	0.9983	94.84
23.5	2,991,703	3,341	0.0011	0.9989	94.68
24.5	2,922,049	28,359	0.0097	0.9903	94.58
25.5	2,874,241	1,566	0.0005	0.9995	93.66
26.5	2,751,351	11,463	0.0042	0.9958	93.61
27.5	2,691,127	26,469	0.0098	0.9902	93.22
28.5	2,554,536	23,468	0.0092	0.9908	92.31
29.5	2,386,624	5,349	0.0022	0.9978	91.46
30.5	2,338,374	16,864	0.0072	0.9928	91.26
31.5	2,326,125	2,107	0.0009	0.9991	90.60
32.5	2,315,298	1,966	0.0008	0.9992	90.52
33.5	2,271,583	11,849	0.0052	0.9948	90.45
34.5	2,224,183	954	0.0004	0.9996	89.98
35.5	2,191,380	24,672	0.0113	0.9887	89.94
36.5	2,157,913	5,220	0.0024	0.9976	88.92
37.5	2,133,766	113,748	0.0533	0.9467	88.71
38.5	2,016,971	2,655	0.0013	0.9987	83.98

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 25.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,985,499	3,714	0.0019	0.9981	83.87
40.5	1,961,933	6,862	0.0035	0.9965	83.71
41.5	1,925,250	3,472	0.0018	0.9982	83.42
42.5	1,885,134	115	0.0001	0.9999	83.27
43.5	1,858,093	31,829	0.0171	0.9829	83.26
44.5	1,815,907	6,828	0.0038	0.9962	81.84
45.5	1,777,652	11,635	0.0065	0.9935	81.53
46.5	1,748,415	4,887	0.0028	0.9972	81.00
47.5	1,720,193	3,695	0.0021	0.9979	80.77
48.5	1,630,106	845	0.0005	0.9995	80.60
49.5	1,625,215	732	0.0005	0.9995	80.56
50.5	1,624,834	911	0.0006	0.9994	80.52
51.5	1,590,445	1,028	0.0006	0.9994	80.47
52.5	1,378,041		0.0000	1.0000	80.42
53.5	547,422	658	0.0012	0.9988	80.42
54.5	470,618		0.0000	1.0000	80.32
55.5	466,412		0.0000	1.0000	80.32
56.5	466,582	217	0.0005	0.9995	80.32
57.5	461,993		0.0000	1.0000	80.28
58.5	437,886	242	0.0006	0.9994	80.28
59.5	368,150		0.0000	1.0000	80.23
60.5	321,228	1,125	0.0035	0.9965	80.23
61.5	296,610	160	0.0005	0.9995	79.95
62.5	293,869		0.0000	1.0000	79.91
63.5	286,151		0.0000	1.0000	79.91
64.5	275,963	163	0.0006	0.9994	79.91
65.5	271,847		0.0000	1.0000	79.86
66.5	270,890	89	0.0003	0.9997	79.86
67.5	268,336	96	0.0004	0.9996	79.84
68.5	267,850	1,090	0.0041	0.9959	79.81
69.5	266,067	394	0.0015	0.9985	79.48
70.5	261,662		0.0000	1.0000	79.36
71.5	261,511		0.0000	1.0000	79.36
72.5	261,138		0.0000	1.0000	79.36
73.5	260,956	298	0.0011	0.9989	79.36
74.5	259,088	35,902	0.1386	0.8614	79.27
75.5	221,211	3,446	0.0156	0.9844	68.28
76.5	216,253	5,100	0.0236	0.9764	67.21
77.5	77,515	125	0.0016	0.9984	65.62
78.5	77,390		0.0000	1.0000	65.52

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 25.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	74,006	155	0.0021	0.9979	65.52
80.5	73,851		0.0000	1.0000	65.38
81.5	73,790		0.0000	1.0000	65.38
82.5	68,011		0.0000	1.0000	65.38
83.5	68,011	302	0.0044	0.9956	65.38
84.5	67,709	300	0.0044	0.9956	65.09
85.5	67,409	76	0.0011	0.9989	64.80
86.5	67,333		0.0000	1.0000	64.73
87.5	62,537		0.0000	1.0000	64.73
88.5	62,537		0.0000	1.0000	64.73
89.5	62,537	1,005	0.0161	0.9839	64.73
90.5	61,532		0.0000	1.0000	63.69
91.5	61,532	7,755	0.1260	0.8740	63.69
92.5	53,778	508	0.0094	0.9906	55.67
93.5	52,950		0.0000	1.0000	55.15
94.5	50,075	1,667	0.0333	0.9667	55.15
95.5	48,408		0.0000	1.0000	53.31
96.5	48,408		0.0000	1.0000	53.31
97.5	47,287		0.0000	1.0000	53.31
98.5	40,331		0.0000	1.0000	53.31
99.5	39,714		0.0000	1.0000	53.31
100.5	39,714		0.0000	1.0000	53.31
101.5	39,714	6,823	0.1718	0.8282	53.31
102.5	32,891		0.0000	1.0000	44.15
103.5	32,891		0.0000	1.0000	44.15
104.5	32,891		0.0000	1.0000	44.15
105.5	23,016		0.0000	1.0000	44.15
106.5	23,016		0.0000	1.0000	44.15
107.5	23,016		0.0000	1.0000	44.15
108.5	16,980	6,502	0.3829	0.6171	44.15
109.5	10,478		0.0000	1.0000	27.24
110.5	6,726		0.0000	1.0000	27.24
111.5	6,726		0.0000	1.0000	27.24
112.5	6,726		0.0000	1.0000	27.24
113.5	6,726		0.0000	1.0000	27.24
114.5	6,726		0.0000	1.0000	27.24
115.5	6,726		0.0000	1.0000	27.24
116.5	2,100		0.0000	1.0000	27.24
117.5	2,100		0.0000	1.0000	27.24
118.5	2,100		0.0000	1.0000	27.24

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 25.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	2,100		0.0000	1.0000	27.24
120.5					27.24
TOTAL	310,338,709	933,424			

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE

AVG AGE RET 26.2 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	17,029,057	111	0.0000	1.0000	100.00
0.5	13,998,241	6,499	0.0005	0.9995	100.00
1.5	13,210,334	817	0.0001	0.9999	99.95
2.5	12,778,927	916	0.0001	0.9999	99.94
3.5	12,910,292	6,711	0.0005	0.9995	99.93
4.5	13,051,069	16,135	0.0012	0.9988	99.88
5.5	13,065,276	200,804	0.0154	0.9846	99.76
6.5	12,224,260	11,862	0.0010	0.9990	98.22
7.5	12,117,705	20,312	0.0017	0.9983	98.12
8.5	7,528,517	1,790	0.0002	0.9998	97.95
9.5	7,144,584	44,368	0.0062	0.9938	97.93
10.5	6,475,043	6,677	0.0010	0.9990	97.32
11.5	5,162,937	141	0.0000	1.0000	97.22
12.5	5,171,937	2,320	0.0004	0.9996	97.22
13.5	5,102,231	8,086	0.0016	0.9984	97.18
14.5	5,005,371	5,871	0.0012	0.9988	97.02
15.5	4,063,327	55,446	0.0136	0.9864	96.90
16.5	4,031,403	13,071	0.0032	0.9968	95.58
17.5	2,969,607	7,381	0.0025	0.9975	95.27
18.5	2,772,267	2,458	0.0009	0.9991	95.03
19.5	2,087,651	11,353	0.0054	0.9946	94.94
20.5	1,925,072	1,913	0.0010	0.9990	94.43
21.5	1,887,750	1,884	0.0010	0.9990	94.34
22.5	1,339,122	4,410	0.0033	0.9967	94.25
23.5	1,288,824	1,439	0.0011	0.9989	93.94
24.5	1,224,117	21,872	0.0179	0.9821	93.84
25.5	1,190,521	1,516	0.0013	0.9987	92.16
26.5	1,103,649	10,164	0.0092	0.9908	92.04
27.5	1,300,212	25,683	0.0198	0.9802	91.19
28.5	2,038,874	22,910	0.0112	0.9888	89.38
29.5	1,949,422	4,490	0.0023	0.9977	88.38
30.5	1,902,854	10,361	0.0054	0.9946	88.18
31.5	1,892,024	1,807	0.0010	0.9990	87.70
32.5	1,886,022	1,816	0.0010	0.9990	87.61
33.5	1,868,442	11,602	0.0062	0.9938	87.52
34.5	1,894,345	854	0.0005	0.9995	86.98
35.5	1,887,689	24,572	0.0130	0.9870	86.94
36.5	1,877,924	5,220	0.0028	0.9972	85.81
37.5	1,856,425	113,748	0.0613	0.9387	85.57
38.5	1,741,016	2,655	0.0015	0.9985	80.32

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 26.2 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,719,835	3,714	0.0022	0.9978	80.20
40.5	1,694,606	6,823	0.0040	0.9960	80.02
41.5	1,658,920	3,472	0.0021	0.9979	79.70
42.5	1,621,963	115	0.0001	0.9999	79.53
43.5	1,595,446	31,709	0.0199	0.9801	79.52
44.5	1,554,505	85	0.0001	0.9999	77.94
45.5	1,527,004	8,024	0.0053	0.9947	77.93
46.5	1,496,671	4,527	0.0030	0.9970	77.52
47.5	1,462,681	3,695	0.0025	0.9975	77.29
48.5	1,372,776	845	0.0006	0.9994	77.10
49.5	1,369,696	732	0.0005	0.9995	77.05
50.5	1,364,155	911	0.0007	0.9993	77.01
51.5	1,332,317	1,028	0.0008	0.9992	76.96
52.5	1,254,531		0.0000	1.0000	76.90
53.5	423,913	68	0.0002	0.9998	76.90
54.5	351,131		0.0000	1.0000	76.88
55.5	346,924		0.0000	1.0000	76.88
56.5	347,372	217	0.0006	0.9994	76.88
57.5	348,562		0.0000	1.0000	76.83
58.5	360,031	242	0.0007	0.9993	76.83
59.5	290,296		0.0000	1.0000	76.78
60.5	243,374	1,125	0.0046	0.9954	76.78
61.5	218,755	160	0.0007	0.9993	76.43
62.5	221,136		0.0000	1.0000	76.38
63.5	213,418		0.0000	1.0000	76.38
64.5	203,230	163	0.0008	0.9992	76.38
65.5	199,114		0.0000	1.0000	76.32
66.5	198,158	89	0.0004	0.9996	76.32
67.5	195,603	96	0.0005	0.9995	76.29
68.5	195,436	1,090	0.0056	0.9944	76.25
69.5	198,791		0.0000	1.0000	75.82
70.5	194,780		0.0000	1.0000	75.82
71.5	194,630		0.0000	1.0000	75.82
72.5	195,377		0.0000	1.0000	75.82
73.5	202,729	298	0.0015	0.9985	75.82
74.5	201,479	35,902	0.1782	0.8218	75.71
75.5	171,124	2,263	0.0132	0.9868	62.22
76.5	172,449	5,100	0.0296	0.9704	61.40
77.5	33,711	125	0.0037	0.9963	59.58
78.5	33,886		0.0000	1.0000	59.36

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 26.2 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	30,502	155	0.0051	0.9949	59.36
80.5	43,402		0.0000	1.0000	59.06
81.5	43,341		0.0000	1.0000	59.06
82.5	37,563		0.0000	1.0000	59.06
83.5	43,900	302	0.0069	0.9931	59.06
84.5	43,598	300	0.0069	0.9931	58.65
85.5	48,914	76	0.0016	0.9984	58.25
86.5	48,838		0.0000	1.0000	58.16
87.5	44,042		0.0000	1.0000	58.16
88.5	44,042		0.0000	1.0000	58.16
89.5	44,042	1,005	0.0228	0.9772	58.16
90.5	43,037		0.0000	1.0000	56.83
91.5	47,894	7,755	0.1619	0.8381	56.83
92.5	46,642	508	0.0109	0.9891	47.63
93.5	45,814		0.0000	1.0000	47.11
94.5	42,939	1,667	0.0388	0.9612	47.11
95.5	48,408		0.0000	1.0000	45.28
96.5	48,408		0.0000	1.0000	45.28
97.5	47,287		0.0000	1.0000	45.28
98.5	40,331		0.0000	1.0000	45.28
99.5	39,714		0.0000	1.0000	45.28
100.5	39,714		0.0000	1.0000	45.28
101.5	39,714	6,823	0.1718	0.8282	45.28
102.5	32,891		0.0000	1.0000	37.50
103.5	32,891		0.0000	1.0000	37.50
104.5	32,891		0.0000	1.0000	37.50
105.5	23,016		0.0000	1.0000	37.50
106.5	23,016		0.0000	1.0000	37.50
107.5	23,016		0.0000	1.0000	37.50
108.5	16,980	6,502	0.3829	0.6171	37.50
109.5	10,478		0.0000	1.0000	23.14
110.5	6,726		0.0000	1.0000	23.14
111.5	6,726		0.0000	1.0000	23.14
112.5	6,726		0.0000	1.0000	23.14
113.5	6,726		0.0000	1.0000	23.14
114.5	6,726		0.0000	1.0000	23.14
115.5	6,726		0.0000	1.0000	23.14
116.5	2,100		0.0000	1.0000	23.14
117.5	2,100		0.0000	1.0000	23.14
118.5	2,100		0.0000	1.0000	23.14

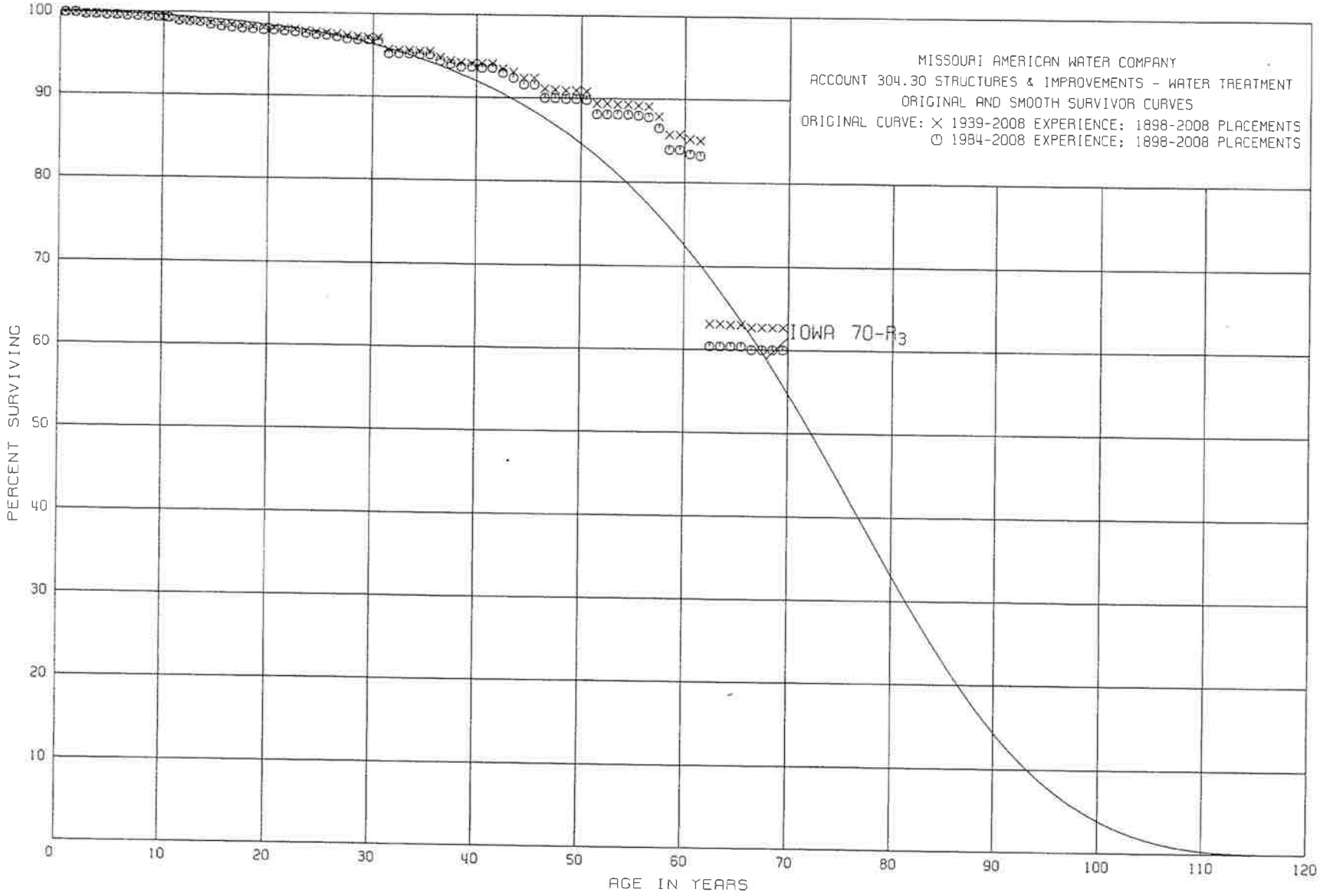
MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 26.2 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	2,100		0.0000	1.0000	23.14
120.5					23.14
TOTAL	238,180,876	829,756			


MISSOURI AMERICAN WATER COMPANY
ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1939-2008 EXPERIENCE; 1898-2008 PLACEMENTS
O 1984-2008 EXPERIENCE; 1898-2008 PLACEMENTS
IOWA 70-R3
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

ORIGINAL LIFE TABLE

AVG AGE RET 28.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1898-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	93,343,921	303	0.0000	1.0000	100.00
0.5	82,067,723	1,789	0.0000	1.0000	100.00
1.5	76,392,141	216,414	0.0028	0.9972	100.00
2.5	74,816,208	9,016	0.0001	0.9999	99.72
3.5	74,593,702	26,239	0.0004	0.9996	99.71
4.5	73,816,993	27,911	0.0004	0.9996	99.67
5.5	73,372,852	23,411	0.0003	0.9997	99.63
6.5	67,150,162	14,461	0.0002	0.9998	99.60
7.5	65,420,143	39,528	0.0006	0.9994	99.58
8.5	38,714,751	59,578	0.0015	0.9985	99.52
9.5	38,437,952	20,941	0.0005	0.9995	99.37
10.5	35,626,984	80,750	0.0023	0.9977	99.32
11.5	34,191,037	29,439	0.0009	0.9991	99.09
12.5	33,168,279	30,711	0.0009	0.9991	99.00
13.5	31,156,963	70,475	0.0023	0.9977	98.91
14.5	29,633,382	31,770	0.0011	0.9989	98.68
15.5	21,905,986	19,600	0.0009	0.9991	98.57
16.5	21,461,152	22,039	0.0010	0.9990	98.48
17.5	20,984,967	24,286	0.0012	0.9988	98.38
18.5	20,710,620	9,066	0.0004	0.9996	98.26
19.5	17,828,463	11,614	0.0007	0.9993	98.22
20.5	17,308,130	4,415	0.0003	0.9997	98.15
21.5	17,047,051	20,756	0.0012	0.9988	98.12
22.5	16,235,815	33,876	0.0021	0.9979	98.00
23.5	14,053,064	10,910	0.0008	0.9992	97.79
24.5	14,021,777	16,947	0.0012	0.9988	97.71
25.5	14,006,482	17,355	0.0012	0.9988	97.59
26.5	13,976,198	26,218	0.0019	0.9981	97.47
27.5	13,932,913	13,119	0.0009	0.9991	97.28
28.5	13,864,548	8,435	0.0006	0.9994	97.19
29.5	13,801,159	3,500	0.0003	0.9997	97.13
30.5	13,725,579	200,966	0.0146	0.9854	97.10
31.5	12,516,982	17,691	0.0014	0.9986	95.68
32.5	12,496,842	436	0.0000	1.0000	95.55
33.5	12,485,597	5,518	0.0004	0.9996	95.55
34.5	12,424,905	6,500	0.0005	0.9995	95.51
35.5	11,470,465	82,277	0.0072	0.9928	95.46
36.5	11,382,899	39,646	0.0035	0.9965	94.77
37.5	8,281,732	25,215	0.0030	0.9970	94.44
38.5	8,229,185	3,191	0.0004	0.9996	94.16

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 28.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1898-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	8,215,508	4,820	0.0006	0.9994	94.12
40.5	5,001,990	438	0.0001	0.9999	94.06
41.5	4,651,602	25,858	0.0056	0.9944	94.05
42.5	4,622,084	22,073	0.0048	0.9952	93.52
43.5	4,547,624	31,579	0.0069	0.9931	93.07
44.5	3,596,583	1,012	0.0003	0.9997	92.43
45.5	3,594,800	51,465	0.0143	0.9857	92.40
46.5	3,528,657	3,721	0.0011	0.9989	91.08
47.5	3,521,694	1,778	0.0005	0.9995	90.98
48.5	3,178,853	1,886	0.0006	0.9994	90.93
49.5	3,065,632	1,657	0.0005	0.9995	90.88
50.5	3,061,182	49,201	0.0161	0.9839	90.83
51.5	2,993,308		0.0000	1.0000	89.37
52.5	2,650,564	1,973	0.0007	0.9993	89.37
53.5	1,837,038	90	0.0000	1.0000	89.31
54.5	1,820,684	2,171	0.0012	0.9988	89.31
55.5	918,635	1,431	0.0016	0.9984	89.20
56.5	906,093	11,691	0.0129	0.9871	89.06
57.5	893,315	22,321	0.0250	0.9750	87.91
58.5	867,204	340	0.0004	0.9996	85.71
59.5	866,671	4,963	0.0057	0.9943	85.68
60.5	861,688	1,692	0.0020	0.9980	85.19
61.5	817,595	211,263	0.2584	0.7416	85.02
62.5	606,232		0.0000	1.0000	63.05
63.5	606,134	66	0.0001	0.9999	63.05
64.5	605,324		0.0000	1.0000	63.04
65.5	605,324	3,264	0.0054	0.9946	63.04
66.5	601,846	6	0.0000	1.0000	62.70
67.5	601,424		0.0000	1.0000	62.70
68.5	601,273	186	0.0003	0.9997	62.70
69.5	279,149	7	0.0000	1.0000	62.68
70.5	276,065		0.0000	1.0000	62.68
71.5	273,863	165	0.0006	0.9994	62.68
72.5	234,714	1,339	0.0057	0.9943	62.64
73.5	233,024	541	0.0023	0.9977	62.28
74.5	253,843	31,732	0.1250	0.8750	62.14
75.5	221,581		0.0000	1.0000	54.37
76.5	218,723		0.0000	1.0000	54.37
77.5	218,059		0.0000	1.0000	54.37
78.5	218,059		0.0000	1.0000	54.37

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 28.5 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1898-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	196,065		0.0000	1.0000	54.37
80.5	196,027		0.0000	1.0000	54.37
81.5	121,243		0.0000	1.0000	54.37
82.5	102,247		0.0000	1.0000	54.37
83.5	74,606		0.0000	1.0000	54.37
84.5	74,606		0.0000	1.0000	54.37
85.5	45,225		0.0000	1.0000	54.37
86.5	45,225		0.0000	1.0000	54.37
87.5	45,225	3,965	0.0877	0.9123	54.37
88.5	41,260		0.0000	1.0000	49.60
89.5	41,260	342	0.0083	0.9917	49.60
90.5	40,918	395	0.0097	0.9903	49.19
91.5	40,523		0.0000	1.0000	48.71
92.5	40,438		0.0000	1.0000	48.71
93.5	40,438		0.0000	1.0000	48.71
94.5	40,438		0.0000	1.0000	48.71
95.5	33,068		0.0000	1.0000	48.71
96.5	33,068		0.0000	1.0000	48.71
97.5	33,068		0.0000	1.0000	48.71
98.5	33,068		0.0000	1.0000	48.71
99.5	33,068		0.0000	1.0000	48.71
100.5	33,068		0.0000	1.0000	48.71
101.5	33,068	2,045	0.0618	0.9382	48.71
102.5	31,024		0.0000	1.0000	45.70
103.5	31,024		0.0000	1.0000	45.70
104.5	31,024		0.0000	1.0000	45.70
105.5	1,856		0.0000	1.0000	45.70
106.5					45.70
TOTAL	1,350,241,493	1,803,788			

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

ORIGINAL LIFE TABLE

AVG AGE RET 29.4 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1898-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	79,422,626		0.0000	1.0000	100.00
0.5	68,230,247	468	0.0000	1.0000	100.00
1.5	62,555,295	215,020	0.0034	0.9966	100.00
2.5	60,948,852	8,805	0.0001	0.9999	99.66
3.5	60,860,623	19,981	0.0003	0.9997	99.65
4.5	60,155,950	27,681	0.0005	0.9995	99.62
5.5	59,784,876	23,234	0.0004	0.9996	99.57
6.5	54,602,269	14,175	0.0003	0.9997	99.53
7.5	52,682,069	35,998	0.0007	0.9993	99.50
8.5	25,991,017	11,655	0.0004	0.9996	99.43
9.5	25,817,999	16,454	0.0006	0.9994	99.39
10.5	24,004,103	74,269	0.0031	0.9969	99.33
11.5	22,514,449	28,767	0.0013	0.9987	99.02
12.5	24,574,841	30,389	0.0012	0.9988	98.89
13.5	22,535,925	68,972	0.0031	0.9969	98.77
14.5	21,206,249	29,702	0.0014	0.9986	98.46
15.5	16,708,879	19,218	0.0012	0.9988	98.32
16.5	16,614,396	19,736	0.0012	0.9988	98.20
17.5	16,147,670	20,586	0.0013	0.9987	98.08
18.5	15,930,075	4,600	0.0003	0.9997	97.95
19.5	13,981,902	9,264	0.0007	0.9993	97.92
20.5	13,467,333	3,659	0.0003	0.9997	97.85
21.5	13,224,250	20,152	0.0015	0.9985	97.82
22.5	12,417,034	28,434	0.0023	0.9977	97.67
23.5	10,641,907	6,744	0.0006	0.9994	97.45
24.5	10,738,169	12,432	0.0012	0.9988	97.39
25.5	10,727,405	14,723	0.0014	0.9986	97.27
26.5	10,728,797	23,745	0.0022	0.9978	97.13
27.5	11,094,048	11,527	0.0010	0.9990	96.92
28.5	11,946,088	7,553	0.0006	0.9994	96.82
29.5	11,901,513	1,982	0.0002	0.9998	96.76
30.5	12,808,358	200,710	0.0157	0.9843	96.74
31.5	11,611,129	4,920	0.0004	0.9996	95.22
32.5	11,607,321	436	0.0000	1.0000	95.18
33.5	11,600,897	4,968	0.0004	0.9996	95.18
34.5	11,541,407	5,400	0.0005	0.9995	95.14
35.5	10,558,653	82,277	0.0078	0.9922	95.09
36.5	10,512,481	39,646	0.0038	0.9962	94.35
37.5	7,412,495	22,307	0.0030	0.9970	93.99
38.5	7,364,728	3,191	0.0004	0.9996	93.71

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 29.4 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1898-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	7,351,794	4,820	0.0007	0.9993	93.67
40.5	4,135,526	407	0.0001	0.9999	93.60
41.5	3,785,733	25,858	0.0068	0.9932	93.59
42.5	3,757,932	22,073	0.0059	0.9941	92.95
43.5	3,683,944	31,453	0.0085	0.9915	92.40
44.5	3,070,347	1,012	0.0003	0.9997	91.61
45.5	3,071,876	51,465	0.0168	0.9832	91.58
46.5	3,025,511	1,428	0.0005	0.9995	90.04
47.5	3,070,534	1,778	0.0006	0.9994	89.99
48.5	2,728,396	1,886	0.0007	0.9993	89.94
49.5	2,615,810	1,657	0.0006	0.9994	89.88
50.5	2,611,890	49,201	0.0188	0.9812	89.83
51.5	2,548,565		0.0000	1.0000	88.14
52.5	2,417,051	1,687	0.0007	0.9993	88.14
53.5	1,603,811	90	0.0001	0.9999	88.08
54.5	1,587,457	2,171	0.0014	0.9986	88.07
55.5	685,447	931	0.0014	0.9986	87.95
56.5	750,588	11,691	0.0156	0.9844	87.83
57.5	756,806	22,321	0.0295	0.9705	86.46
58.5	790,919	340	0.0004	0.9996	83.91
59.5	790,386	4,963	0.0063	0.9937	83.88
60.5	814,783	1,692	0.0021	0.9979	83.35
61.5	770,690	211,263	0.2741	0.7259	83.17
62.5	559,327		0.0000	1.0000	60.37
63.5	559,230	66	0.0001	0.9999	60.37
64.5	558,420		0.0000	1.0000	60.36
65.5	558,420	3,264	0.0058	0.9942	60.36
66.5	554,942	6	0.0000	1.0000	60.01
67.5	554,605		0.0000	1.0000	60.01
68.5	554,454	186	0.0003	0.9997	60.01
69.5	232,330	7	0.0000	1.0000	59.99
70.5	236,616		0.0000	1.0000	59.99
71.5	238,534	165	0.0007	0.9993	59.99
72.5	199,386		0.0000	1.0000	59.95
73.5	199,034	541	0.0027	0.9973	59.95
74.5	219,854	31,732	0.1443	0.8557	59.79
75.5	187,591		0.0000	1.0000	51.16
76.5	184,734		0.0000	1.0000	51.16
77.5	184,070		0.0000	1.0000	51.16
78.5	184,070		0.0000	1.0000	51.16

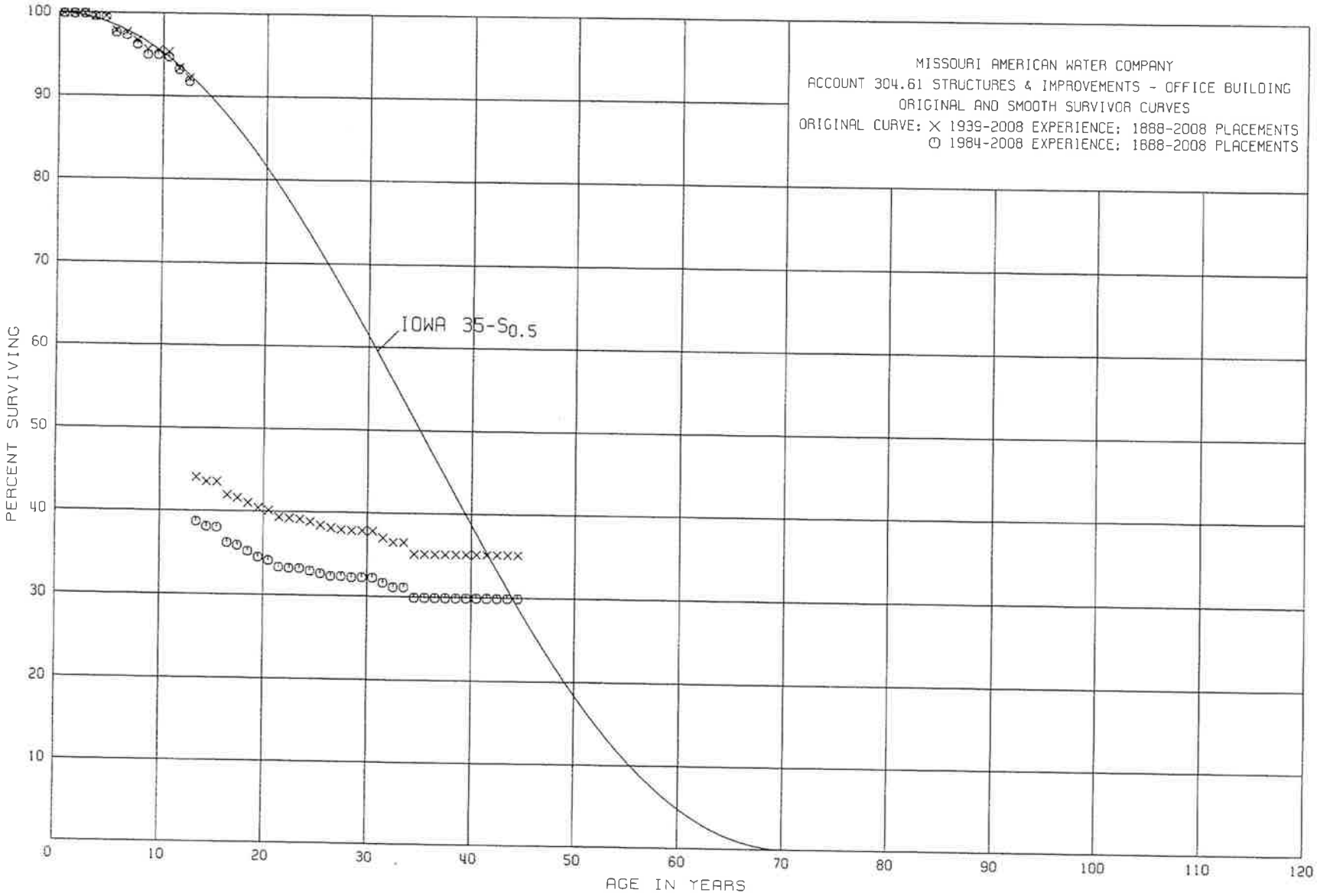
MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 29.4 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1898-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	162,076		0.0000	1.0000	51.16
80.5	191,205		0.0000	1.0000	51.16
81.5	118,277		0.0000	1.0000	51.16
82.5	99,281		0.0000	1.0000	51.16
83.5	71,640		0.0000	1.0000	51.16
84.5	71,640		0.0000	1.0000	51.16
85.5	45,225		0.0000	1.0000	51.16
86.5	45,225		0.0000	1.0000	51.16
87.5	45,225	3,965	0.0877	0.9123	51.16
88.5	41,260		0.0000	1.0000	46.67
89.5	41,260	342	0.0083	0.9917	46.67
90.5	40,918	395	0.0097	0.9903	46.28
91.5	40,523		0.0000	1.0000	45.83
92.5	40,438		0.0000	1.0000	45.83
93.5	40,438		0.0000	1.0000	45.83
94.5	40,438		0.0000	1.0000	45.83
95.5	33,068		0.0000	1.0000	45.83
96.5	33,068		0.0000	1.0000	45.83
97.5	33,068		0.0000	1.0000	45.83
98.5	33,068		0.0000	1.0000	45.83
99.5	33,068		0.0000	1.0000	45.83
100.5	33,068		0.0000	1.0000	45.83
101.5	33,068	2,045	0.0618	0.9382	45.83
102.5	31,024		0.0000	1.0000	43.00
103.5	31,024		0.0000	1.0000	43.00
104.5	31,024		0.0000	1.0000	43.00
105.5	1,856		0.0000	1.0000	43.00
106.5					43.00
TOTAL	1,081,027,211	1,666,681			


MISSOURI AMERICAN WATER COMPANY
ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1939-2008 EXPERIENCE; 1888-2008 PLACEMENTS
O 1984-2008 EXPERIENCE; 1888-2008 PLACEMENTS
IOWA 35-S0.5
PERCENT SURVIVING
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
110
120

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE

AVG AGE RET 13.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,741,247		0.0000	1.0000	100.00
0.5	3,204,409		0.0000	1.0000	100.00
1.5	2,265,953	497	0.0002	0.9998	100.00
2.5	2,218,615	7,808	0.0035	0.9965	99.98
3.5	2,205,095	955	0.0004	0.9996	99.63
4.5	2,045,467	34,022	0.0166	0.9834	99.59
5.5	1,988,384	5,105	0.0026	0.9974	97.94
6.5	1,947,127	19,684	0.0101	0.9899	97.69
7.5	1,884,339	20,916	0.0111	0.9889	96.70
8.5	1,850,555	1,662	0.0009	0.9991	95.63
9.5	1,841,997	4,444	0.0024	0.9976	95.54
10.5	1,796,872	35,366	0.0197	0.9803	95.31
11.5	1,725,637	22,369	0.0130	0.9870	93.43
12.5	1,643,564	858,969	0.5226	0.4774	92.22
13.5	754,251	8,886	0.0118	0.9882	44.03
14.5	660,325	882	0.0013	0.9987	43.51
15.5	623,695	21,938	0.0352	0.9648	43.45
16.5	558,914	4,767	0.0085	0.9915	41.92
17.5	544,757	7,952	0.0146	0.9854	41.56
18.5	389,512	4,939	0.0127	0.9873	40.95
19.5	384,573	3,335	0.0087	0.9913	40.43
20.5	368,385	7,183	0.0195	0.9805	40.08
21.5	361,202	727	0.0020	0.9980	39.30
22.5	296,762	750	0.0025	0.9975	39.22
23.5	289,140	2,516	0.0087	0.9913	39.12
24.5	284,063	2,780	0.0098	0.9902	38.78
25.5	279,084	2,002	0.0072	0.9928	38.40
26.5	242,269	1,660	0.0069	0.9931	38.12
27.5	239,684	443	0.0018	0.9982	37.86
28.5	238,720		0.0000	1.0000	37.79
29.5	231,270		0.0000	1.0000	37.79
30.5	231,270	4,733	0.0205	0.9795	37.79
31.5	231,738	3,594	0.0155	0.9845	37.02
32.5	228,145		0.0000	1.0000	36.45
33.5	227,490	8,378	0.0368	0.9632	36.45
34.5	219,113		0.0000	1.0000	35.11
35.5	216,660	61	0.0003	0.9997	35.11
36.5	216,599		0.0000	1.0000	35.10
37.5	130,837		0.0000	1.0000	35.10
38.5	130,837		0.0000	1.0000	35.10

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 13.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	130,540		0.0000	1.0000	35.10
40.5	130,540		0.0000	1.0000	35.10
41.5	130,771		0.0000	1.0000	35.10
42.5	130,659		0.0000	1.0000	35.10
43.5	118,381		0.0000	1.0000	35.10
44.5	118,221	229	0.0019	0.9981	35.10
45.5	65,047		0.0000	1.0000	35.03
46.5	31,252		0.0000	1.0000	35.03
47.5	31,252		0.0000	1.0000	35.03
48.5	6,402		0.0000	1.0000	35.03
49.5	6,402		0.0000	1.0000	35.03
50.5	7,051		0.0000	1.0000	35.03
51.5	7,002		0.0000	1.0000	35.03
52.5	5,056		0.0000	1.0000	35.03
53.5	4,492		0.0000	1.0000	35.03
54.5	4,492		0.0000	1.0000	35.03
55.5	4,492		0.0000	1.0000	35.03
56.5	4,492		0.0000	1.0000	35.03
57.5	4,465		0.0000	1.0000	35.03
58.5	4,465		0.0000	1.0000	35.03
59.5	4,465		0.0000	1.0000	35.03
60.5	4,465		0.0000	1.0000	35.03
61.5	4,465	95	0.0213	0.9787	35.03
62.5	4,370		0.0000	1.0000	34.28
63.5	4,370		0.0000	1.0000	34.28
64.5	4,370		0.0000	1.0000	34.28
65.5	4,370		0.0000	1.0000	34.28
66.5	3,963		0.0000	1.0000	34.28
67.5	3,963		0.0000	1.0000	34.28
68.5	3,963		0.0000	1.0000	34.28
69.5	3,963		0.0000	1.0000	34.28
70.5	3,963		0.0000	1.0000	34.28
71.5	3,963		0.0000	1.0000	34.28
72.5	3,963		0.0000	1.0000	34.28
73.5	3,879		0.0000	1.0000	34.28
74.5	3,879		0.0000	1.0000	34.28
75.5	3,879		0.0000	1.0000	34.28
76.5	3,879		0.0000	1.0000	34.28
77.5	3,879		0.0000	1.0000	34.28
78.5	3,879		0.0000	1.0000	34.28

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 13.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	3,879		0.0000	1.0000	34.28
80.5	3,173		0.0000	1.0000	34.28
81.5	2,306		0.0000	1.0000	34.28
82.5	2,306		0.0000	1.0000	34.28
83.5	2,306		0.0000	1.0000	34.28
84.5	2,306		0.0000	1.0000	34.28
85.5	2,084		0.0000	1.0000	34.28
86.5	2,074		0.0000	1.0000	34.28
87.5	2,074		0.0000	1.0000	34.28
88.5	2,074		0.0000	1.0000	34.28
89.5	2,074		0.0000	1.0000	34.28
90.5	2,074		0.0000	1.0000	34.28
91.5	2,074		0.0000	1.0000	34.28
92.5	2,074		0.0000	1.0000	34.28
93.5	2,074		0.0000	1.0000	34.28
94.5	2,074		0.0000	1.0000	34.28
95.5	2,074		0.0000	1.0000	34.28
96.5	2,074		0.0000	1.0000	34.28
97.5	2,074		0.0000	1.0000	34.28
98.5	2,074		0.0000	1.0000	34.28
99.5	1,176		0.0000	1.0000	34.28
100.5	1,176		0.0000	1.0000	34.28
101.5	1,176		0.0000	1.0000	34.28
102.5	1,176		0.0000	1.0000	34.28
103.5	1,176		0.0000	1.0000	34.28
104.5	1,176		0.0000	1.0000	34.28
105.5	1,176		0.0000	1.0000	34.28
106.5	1,176		0.0000	1.0000	34.28
107.5	1,176		0.0000	1.0000	34.28
108.5	1,176		0.0000	1.0000	34.28
109.5	1,176		0.0000	1.0000	34.28
110.5	1,176		0.0000	1.0000	34.28
111.5	945		0.0000	1.0000	34.28
112.5	945		0.0000	1.0000	34.28
113.5	945		0.0000	1.0000	34.28
114.5	945		0.0000	1.0000	34.28
115.5	945		0.0000	1.0000	34.28
116.5	945		0.0000	1.0000	34.28
117.5	945		0.0000	1.0000	34.28
118.5	945		0.0000	1.0000	34.28

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 13.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	945		0.0000	1.0000	34.28
120.5					34.28
TOTAL	45,033,859	1,099,647			

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE

AVG AGE RET 13.0 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,365,550		0.0000	1.0000	100.00
0.5	2,868,060		0.0000	1.0000	100.00
1.5	1,971,453	497	0.0003	0.9997	100.00
2.5	1,931,145	7,808	0.0040	0.9960	99.97
3.5	1,919,422	806	0.0004	0.9996	99.57
4.5	1,769,780	33,932	0.0192	0.9808	99.53
5.5	1,712,787	5,105	0.0030	0.9970	97.62
6.5	1,673,632	19,684	0.0118	0.9882	97.33
7.5	1,612,333	19,134	0.0119	0.9881	96.18
8.5	1,581,665	1,203	0.0008	0.9992	95.04
9.5	1,578,014	4,115	0.0026	0.9974	94.96
10.5	1,535,749	23,874	0.0155	0.9845	94.71
11.5	1,476,904	22,369	0.0151	0.9849	93.24
12.5	1,483,723	858,969	0.5789	0.4211	91.83
13.5	594,492	8,886	0.0149	0.9851	38.67
14.5	500,953	882	0.0018	0.9982	38.09
15.5	464,397	21,938	0.0472	0.9528	38.02
16.5	406,789	4,001	0.0098	0.9902	36.23
17.5	393,509	7,952	0.0202	0.9798	35.87
18.5	250,605	4,483	0.0179	0.9821	35.15
19.5	248,349	2,757	0.0111	0.9889	34.52
20.5	288,225	7,183	0.0249	0.9751	34.14
21.5	324,297	727	0.0022	0.9978	33.29
22.5	259,856	62	0.0002	0.9998	33.22
23.5	280,217	2,516	0.0090	0.9910	33.21
24.5	275,140	2,780	0.0101	0.9899	32.91
25.5	270,457	2,002	0.0074	0.9926	32.58
26.5	237,753	284	0.0012	0.9988	32.34
27.5	236,702	443	0.0019	0.9981	32.30
28.5	236,302		0.0000	1.0000	32.24
29.5	227,954		0.0000	1.0000	32.24
30.5	227,954	4,733	0.0208	0.9792	32.24
31.5	228,422	3,594	0.0157	0.9843	31.57
32.5	224,856		0.0000	1.0000	31.07
33.5	224,201	8,378	0.0374	0.9626	31.07
34.5	215,824		0.0000	1.0000	29.91
35.5	213,371	61	0.0003	0.9997	29.91
36.5	213,310		0.0000	1.0000	29.90
37.5	127,548		0.0000	1.0000	29.90
38.5	127,548		0.0000	1.0000	29.90

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 13.0 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	127,251		0.0000	1.0000	29.90
40.5	127,251		0.0000	1.0000	29.90
41.5	127,658		0.0000	1.0000	29.90
42.5	127,546		0.0000	1.0000	29.90
43.5	115,268		0.0000	1.0000	29.90
44.5	115,108	229	0.0020	0.9980	29.90
45.5	61,934		0.0000	1.0000	29.84
46.5	28,139		0.0000	1.0000	29.84
47.5	28,139		0.0000	1.0000	29.84
48.5	3,373		0.0000	1.0000	29.84
49.5	3,373		0.0000	1.0000	29.84
50.5	3,077		0.0000	1.0000	29.84
51.5	3,028		0.0000	1.0000	29.84
52.5	1,082		0.0000	1.0000	29.84
53.5	518		0.0000	1.0000	29.84
54.5	518		0.0000	1.0000	29.84
55.5	1,319		0.0000	1.0000	29.84
56.5	2,186		0.0000	1.0000	29.84
57.5	2,159		0.0000	1.0000	29.84
58.5	2,159		0.0000	1.0000	29.84
59.5	2,159		0.0000	1.0000	29.84
60.5	2,381		0.0000	1.0000	29.84
61.5	2,391	95	0.0397	0.9603	29.84
62.5	2,296		0.0000	1.0000	28.66
63.5	2,296		0.0000	1.0000	28.66
64.5	2,296		0.0000	1.0000	28.66
65.5	2,296		0.0000	1.0000	28.66
66.5	1,889		0.0000	1.0000	28.66
67.5	1,889		0.0000	1.0000	28.66
68.5	1,889		0.0000	1.0000	28.66
69.5	1,889		0.0000	1.0000	28.66
70.5	1,889		0.0000	1.0000	28.66
71.5	1,889		0.0000	1.0000	28.66
72.5	1,889		0.0000	1.0000	28.66
73.5	1,805		0.0000	1.0000	28.66
74.5	2,703		0.0000	1.0000	28.66
75.5	2,703		0.0000	1.0000	28.66
76.5	2,703		0.0000	1.0000	28.66
77.5	2,703		0.0000	1.0000	28.66
78.5	2,703		0.0000	1.0000	28.66

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 13.0 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,703		0.0000	1.0000	28.66
80.5	1,997		0.0000	1.0000	28.66
81.5	1,130		0.0000	1.0000	28.66
82.5	1,130		0.0000	1.0000	28.66
83.5	1,130		0.0000	1.0000	28.66
84.5	1,130		0.0000	1.0000	28.66
85.5	908		0.0000	1.0000	28.66
86.5	1,129		0.0000	1.0000	28.66
87.5	1,129		0.0000	1.0000	28.66
88.5	1,129		0.0000	1.0000	28.66
89.5	1,129		0.0000	1.0000	28.66
90.5	1,129		0.0000	1.0000	28.66
91.5	1,129		0.0000	1.0000	28.66
92.5	1,129		0.0000	1.0000	28.66
93.5	1,129		0.0000	1.0000	28.66
94.5	1,129		0.0000	1.0000	28.66
95.5	2,074		0.0000	1.0000	28.66
96.5	2,074		0.0000	1.0000	28.66
97.5	2,074		0.0000	1.0000	28.66
98.5	2,074		0.0000	1.0000	28.66
99.5	1,176		0.0000	1.0000	28.66
100.5	1,176		0.0000	1.0000	28.66
101.5	1,176		0.0000	1.0000	28.66
102.5	1,176		0.0000	1.0000	28.66
103.5	1,176		0.0000	1.0000	28.66
104.5	1,176		0.0000	1.0000	28.66
105.5	1,176		0.0000	1.0000	28.66
106.5	1,176		0.0000	1.0000	28.66
107.5	1,176		0.0000	1.0000	28.66
108.5	1,176		0.0000	1.0000	28.66
109.5	1,176		0.0000	1.0000	28.66
110.5	1,176		0.0000	1.0000	28.66
111.5	945		0.0000	1.0000	28.66
112.5	945		0.0000	1.0000	28.66
113.5	945		0.0000	1.0000	28.66
114.5	945		0.0000	1.0000	28.66
115.5	945		0.0000	1.0000	28.66
116.5	945		0.0000	1.0000	28.66
117.5	945		0.0000	1.0000	28.66
118.5	945		0.0000	1.0000	28.66

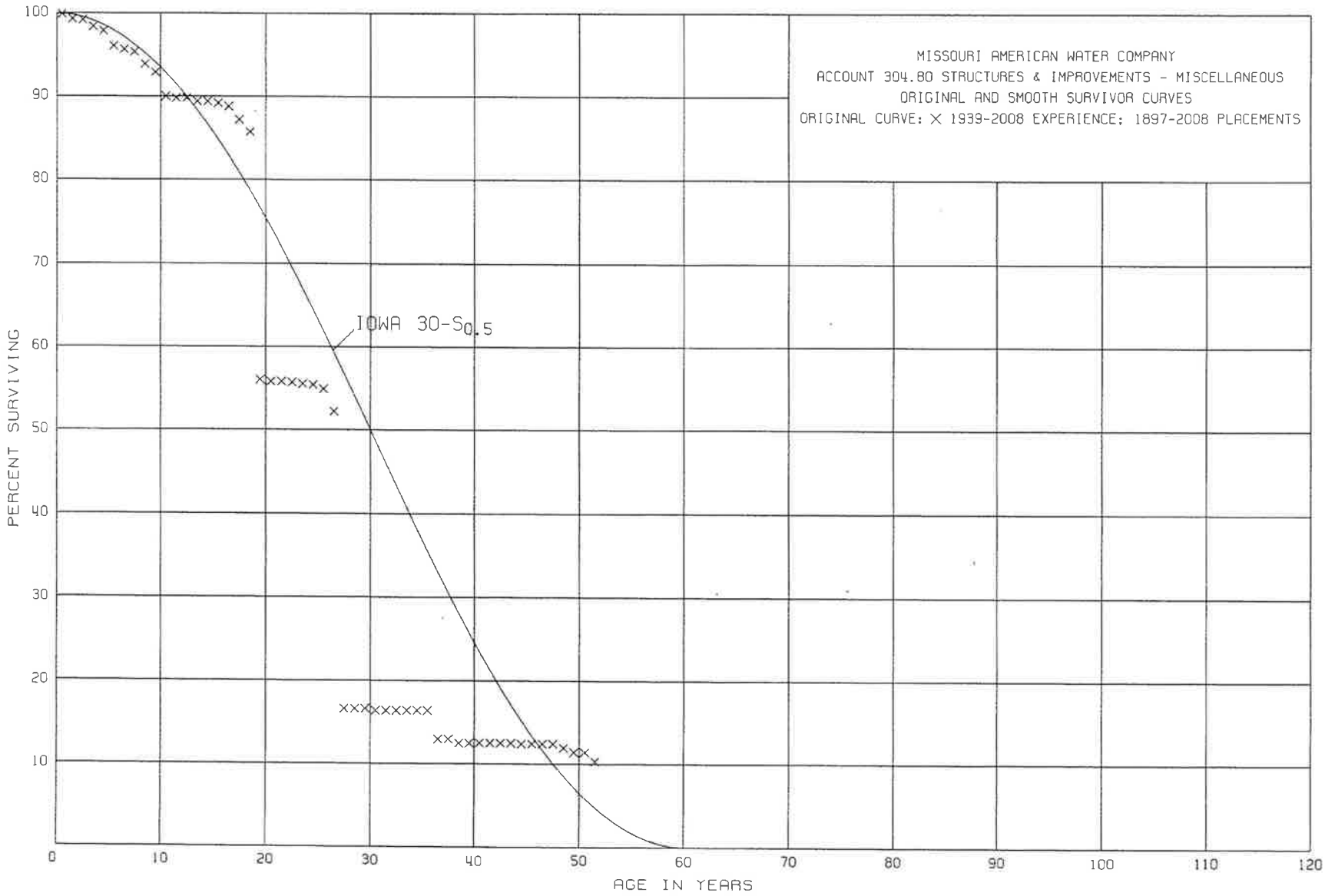
MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.61 STRUCTURES & IMPROVEMENTS - OFFICE BUILDING

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 13.0 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1888-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	945		0.0000	1.0000	28.66
120.5					28.66
TOTAL	39,756,194	1,081,482			


MISSOURI AMERICAN WATER COMPANY
ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1939-2008 EXPERIENCE; 1897-2008 PLACEMENTS
IOWA 30-S0.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

ORIGINAL LIFE TABLE

AVG AGE RET 19.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1897-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,422,807		0.0000	1.0000	100.00
0.5	5,400,305	38,557	0.0071	0.9929	100.00
1.5	5,284,631	3,932	0.0007	0.9993	99.29
2.5	5,145,169	41,625	0.0081	0.9919	99.22
3.5	5,061,790	27,331	0.0054	0.9946	98.42
4.5	5,031,947	93,325	0.0185	0.9815	97.89
5.5	4,901,252	19,008	0.0039	0.9961	96.08
6.5	4,855,237	13,541	0.0028	0.9972	95.71
7.5	4,510,590	74,138	0.0164	0.9836	95.44
8.5	2,566,667	26,372	0.0103	0.9897	93.87
9.5	2,334,300	72,316	0.0310	0.9690	92.90
10.5	2,294,354	4,574	0.0020	0.9980	90.02
11.5	2,283,912	211	0.0001	0.9999	89.84
12.5	2,284,548	10,314	0.0045	0.9955	89.83
13.5	2,272,005	984	0.0004	0.9996	89.43
14.5	1,110,450	2,891	0.0026	0.9974	89.39
15.5	1,095,938	4,344	0.0040	0.9960	89.16
16.5	1,090,230	19,653	0.0180	0.9820	88.80
17.5	1,021,233	17,614	0.0172	0.9828	87.20
18.5	1,003,619	347,947	0.3467	0.6533	85.70
19.5	636,406	1,892	0.0030	0.9970	55.99
20.5	668,425	477	0.0007	0.9993	55.82
21.5	667,957	758	0.0011	0.9989	55.78
22.5	667,034	3,061	0.0046	0.9954	55.72
23.5	659,814	1,268	0.0019	0.9981	55.46
24.5	656,750	5,530	0.0084	0.9916	55.35
25.5	649,645	31,366	0.0483	0.9517	54.89
26.5	583,352	398,477	0.6831	0.3169	52.24
27.5	184,848	50	0.0003	0.9997	16.55
28.5	183,704	30	0.0002	0.9998	16.55
29.5	183,638	1,754	0.0096	0.9904	16.55
30.5	154,527	203	0.0013	0.9987	16.39
31.5	155,615		0.0000	1.0000	16.37
32.5	155,615	150	0.0010	0.9990	16.37
33.5	155,465		0.0000	1.0000	16.35
34.5	155,465		0.0000	1.0000	16.35
35.5	155,465	32,270	0.2076	0.7924	16.35
36.5	123,421		0.0000	1.0000	12.96
37.5	123,421	4,370	0.0354	0.9646	12.96
38.5	118,589		0.0000	1.0000	12.50

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 19.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1897-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	118,589	79	0.0007	0.9993	12.50
40.5	118,510		0.0000	1.0000	12.49
41.5	119,291		0.0000	1.0000	12.49
42.5	118,611		0.0000	1.0000	12.49
43.5	118,611	602	0.0051	0.9949	12.49
44.5	118,009		0.0000	1.0000	12.43
45.5	118,009		0.0000	1.0000	12.43
46.5	116,739		0.0000	1.0000	12.43
47.5	100,047	4,592	0.0459	0.9541	12.43
48.5	90,155	3,538	0.0392	0.9608	11.86
49.5	80,833		0.0000	1.0000	11.40
50.5	80,329	7,565	0.0942	0.9058	11.40
51.5	51,161		0.0000	1.0000	10.33
52.5	51,161		0.0000	1.0000	10.33
53.5	51,161		0.0000	1.0000	10.33
54.5	51,161		0.0000	1.0000	10.33
55.5	51,150		0.0000	1.0000	10.33
56.5	51,054		0.0000	1.0000	10.33
57.5	42,393		0.0000	1.0000	10.33
58.5	42,277	296	0.0070	0.9930	10.33
59.5	41,981	68	0.0016	0.9984	10.26
60.5	41,914	40	0.0010	0.9990	10.24
61.5	40,137		0.0000	1.0000	10.23
62.5	39,411		0.0000	1.0000	10.23
63.5	39,411	17	0.0004	0.9996	10.23
64.5	37,779		0.0000	1.0000	10.23
65.5	22,452		0.0000	1.0000	10.23
66.5	22,452		0.0000	1.0000	10.23
67.5	22,452		0.0000	1.0000	10.23
68.5	22,452		0.0000	1.0000	10.23
69.5	22,452		0.0000	1.0000	10.23
70.5	21,364	38	0.0018	0.9982	10.23
71.5	21,326		0.0000	1.0000	10.21
72.5	20,789	250	0.0120	0.9880	10.21
73.5	20,539		0.0000	1.0000	10.09
74.5	20,539	11,936	0.5811	0.4189	10.09
75.5	8,603		0.0000	1.0000	4.23
76.5	8,603		0.0000	1.0000	4.23
77.5	8,509		0.0000	1.0000	4.23
78.5	8,509		0.0000	1.0000	4.23

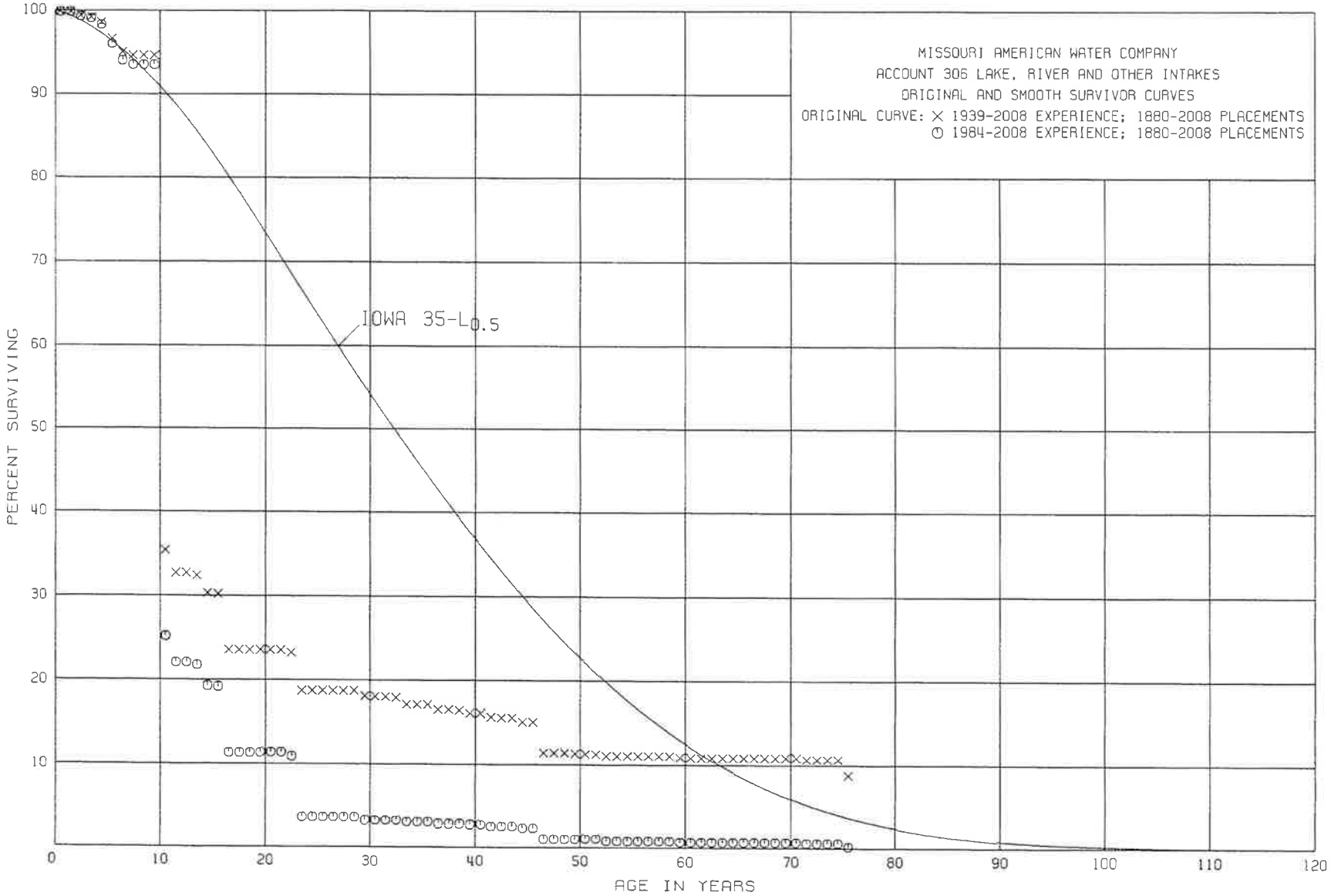
MISSOURI AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 19.0 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1897-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	8,157		0.0000	1.0000	4.23
80.5	8,052		0.0000	1.0000	4.23
81.5	6,488		0.0000	1.0000	4.23
82.5	5,826		0.0000	1.0000	4.23
83.5	5,826		0.0000	1.0000	4.23
84.5	5,826		0.0000	1.0000	4.23
85.5	5,826		0.0000	1.0000	4.23
86.5	5,826		0.0000	1.0000	4.23
87.5	5,826	1,477	0.2535	0.7465	4.23
88.5	4,349		0.0000	1.0000	3.16
89.5	4,349		0.0000	1.0000	3.16
90.5	4,349		0.0000	1.0000	3.16
91.5	4,349		0.0000	1.0000	3.16
92.5	4,349		0.0000	1.0000	3.16
93.5	4,349		0.0000	1.0000	3.16
94.5	4,349		0.0000	1.0000	3.16
95.5	4,252		0.0000	1.0000	3.16
96.5	2,320		0.0000	1.0000	3.16
97.5	2,320		0.0000	1.0000	3.16
98.5	2,298	66	0.0287	0.9713	3.16
99.5	2,232		0.0000	1.0000	3.07
100.5	2,232		0.0000	1.0000	3.07
101.5	942		0.0000	1.0000	3.07
102.5	942	782	0.8301	0.1699	3.07
103.5	160		0.0000	1.0000	0.52
104.5	160		0.0000	1.0000	0.52
105.5	160		0.0000	1.0000	0.52
106.5					0.52
TOTAL	74,297,179	1,331,679			


MISSOURI AMERICAN WATER COMPANY
ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1939-2008 EXPERIENCE; 1880-2008 PLACEMENTS
O 1984-2008 EXPERIENCE; 1880-2008 PLACEMENTS
IOWA 35-L0.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE

AVG AGE RET 23.3 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,161,191		0.0000	1.0000	100.00
0.5	2,096,422		0.0000	1.0000	100.00
1.5	1,603,150	10,275	0.0064	0.9936	100.00
2.5	1,592,875	1,900	0.0012	0.9988	99.36
3.5	1,590,975	11,144	0.0070	0.9930	99.24
4.5	1,276,872	24,844	0.0195	0.9805	98.55
5.5	1,252,028	21,193	0.0169	0.9831	96.63
6.5	1,230,835	5,623	0.0046	0.9954	95.00
7.5	1,218,886		0.0000	1.0000	94.56
8.5	1,218,886		0.0000	1.0000	94.56
9.5	1,221,041	764,059	0.6257	0.3743	94.56
10.5	456,982	34,808	0.0762	0.9238	35.39
11.5	422,174	473	0.0011	0.9989	32.69
12.5	421,782	3,268	0.0077	0.9923	32.65
13.5	449,395	29,765	0.0662	0.9338	32.40
14.5	417,746	1,000	0.0024	0.9976	30.26
15.5	416,746	90,407	0.2169	0.7831	30.19
16.5	326,339		0.0000	1.0000	23.64
17.5	326,339		0.0000	1.0000	23.64
18.5	326,339		0.0000	1.0000	23.64
19.5	326,339		0.0000	1.0000	23.64
20.5	257,469		0.0000	1.0000	23.64
21.5	257,469	3,240	0.0126	0.9874	23.64
22.5	252,303	48,966	0.1941	0.8059	23.34
23.5	203,337		0.0000	1.0000	18.81
24.5	203,371		0.0000	1.0000	18.81
25.5	203,371		0.0000	1.0000	18.81
26.5	205,165		0.0000	1.0000	18.81
27.5	205,397		0.0000	1.0000	18.81
28.5	209,166	8,039	0.0384	0.9616	18.81
29.5	201,731		0.0000	1.0000	18.09
30.5	201,834	147	0.0007	0.9993	18.09
31.5	201,956	784	0.0039	0.9961	18.08
32.5	210,932	10,068	0.0477	0.9523	18.01
33.5	200,865		0.0000	1.0000	17.15
34.5	200,865		0.0000	1.0000	17.15
35.5	216,714	7,268	0.0335	0.9665	17.15
36.5	231,476	100	0.0004	0.9996	16.58
37.5	243,668	954	0.0039	0.9961	16.57
38.5	244,320	6,032	0.0247	0.9753	16.51

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 23.3 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	239,716		0.0000	1.0000	16.10
40.5	245,052	6,173	0.0252	0.9748	16.10
41.5	250,485	1,000	0.0040	0.9960	15.69
42.5	260,121		0.0000	1.0000	15.63
43.5	260,121	8,667	0.0333	0.9667	15.63
44.5	258,255		0.0000	1.0000	15.11
45.5	258,255	63,877	0.2473	0.7527	15.11
46.5	194,501	146	0.0008	0.9992	11.37
47.5	194,520		0.0000	1.0000	11.36
48.5	194,520	1,593	0.0082	0.9918	11.36
49.5	192,927		0.0000	1.0000	11.27
50.5	193,510		0.0000	1.0000	11.27
51.5	149,245	2,278	0.0153	0.9847	11.27
52.5	146,967		0.0000	1.0000	11.10
53.5	149,116		0.0000	1.0000	11.10
54.5	150,316		0.0000	1.0000	11.10
55.5	150,316		0.0000	1.0000	11.10
56.5	150,316		0.0000	1.0000	11.10
57.5	150,316		0.0000	1.0000	11.10
58.5	165,962	3,755	0.0226	0.9774	11.10
59.5	162,207		0.0000	1.0000	10.85
60.5	162,207		0.0000	1.0000	10.85
61.5	162,207		0.0000	1.0000	10.85
62.5	160,171		0.0000	1.0000	10.85
63.5	159,341		0.0000	1.0000	10.85
64.5	159,341		0.0000	1.0000	10.85
65.5	157,352		0.0000	1.0000	10.85
66.5	157,352		0.0000	1.0000	10.85
67.5	157,352		0.0000	1.0000	10.85
68.5	157,270		0.0000	1.0000	10.85
69.5	157,270		0.0000	1.0000	10.85
70.5	157,270	2,155	0.0137	0.9863	10.85
71.5	155,115		0.0000	1.0000	10.70
72.5	155,115		0.0000	1.0000	10.70
73.5	155,115	80	0.0005	0.9995	10.70
74.5	155,035	27,126	0.1750	0.8250	10.69
75.5	127,909		0.0000	1.0000	8.82
76.5	127,909		0.0000	1.0000	8.82
77.5	127,909		0.0000	1.0000	8.82
78.5	127,909		0.0000	1.0000	8.82

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 23.3 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	127,909		0.0000	1.0000	8.82
80.5	127,909		0.0000	1.0000	8.82
81.5	127,909		0.0000	1.0000	8.82
82.5	127,909		0.0000	1.0000	8.82
83.5	127,909		0.0000	1.0000	8.82
84.5	127,909		0.0000	1.0000	8.82
85.5	127,909		0.0000	1.0000	8.82
86.5	127,909		0.0000	1.0000	8.82
87.5	127,909	2,756	0.0215	0.9785	8.82
88.5	125,153		0.0000	1.0000	8.63
89.5	125,153		0.0000	1.0000	8.63
90.5	125,153	791	0.0063	0.9937	8.63
91.5	124,362	1,086	0.0087	0.9913	8.58
92.5	121,567	269	0.0022	0.9978	8.51
93.5	121,298	9,761	0.0805	0.9195	8.49
94.5	111,503		0.0000	1.0000	7.81
95.5	111,503		0.0000	1.0000	7.81
96.5	111,474	15,850	0.1422	0.8578	7.81
97.5	95,392	18,054	0.1893	0.8107	6.70
98.5	73,569	12,291	0.1671	0.8329	5.43
99.5	61,066	1,606	0.0263	0.9737	4.52
100.5	59,459	1,428	0.0240	0.9760	4.40
101.5	58,031	3,458	0.0596	0.9404	4.29
102.5	54,573	11,605	0.2127	0.7873	4.03
103.5	42,967	10,636	0.2475	0.7525	3.17
104.5	32,331		0.0000	1.0000	2.39
105.5	32,331	6,823	0.2110	0.7890	2.39
106.5	22,050		0.0000	1.0000	1.89
107.5	22,050	16	0.0007	0.9993	1.89
108.5	22,034	166	0.0075	0.9925	1.89
109.5	21,868	709	0.0324	0.9676	1.88
110.5	21,159		0.0000	1.0000	1.82
111.5	21,159		0.0000	1.0000	1.82
112.5	21,159		0.0000	1.0000	1.82
113.5	21,159		0.0000	1.0000	1.82
114.5	21,159	2,149	0.1016	0.8984	1.82
115.5	19,010	1,200	0.0631	0.9369	1.64
116.5	15,520		0.0000	1.0000	1.54
117.5	15,520		0.0000	1.0000	1.54
118.5	15,520		0.0000	1.0000	1.54

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 23.3 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	15,520	14,937	0.9624	0.0376	1.54
120.5					0.06
TOTAL	34,513,597	1,316,798			

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE

AVG AGE RET 23.3 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,936,268		0.0000	1.0000	100.00
0.5	1,871,500		0.0000	1.0000	100.00
1.5	1,378,228	10,275	0.0075	0.9925	100.00
2.5	1,367,953	1,900	0.0014	0.9986	99.25
3.5	1,366,053	11,144	0.0082	0.9918	99.11
4.5	1,051,950	24,844	0.0236	0.9764	98.30
5.5	1,027,105	21,193	0.0206	0.9794	95.98
6.5	1,058,146	5,623	0.0053	0.9947	94.00
7.5	1,046,197		0.0000	1.0000	93.50
8.5	1,046,197		0.0000	1.0000	93.50
9.5	1,046,197	764,059	0.7303	0.2697	93.50
10.5	282,138	34,808	0.1234	0.8766	25.22
11.5	248,267	473	0.0019	0.9981	22.11
12.5	259,073	3,268	0.0126	0.9874	22.07
13.5	255,806	29,765	0.1164	0.8836	21.79
14.5	224,157	1,000	0.0045	0.9955	19.25
15.5	223,157	90,407	0.4051	0.5949	19.16
16.5	141,200		0.0000	1.0000	11.40
17.5	141,200		0.0000	1.0000	11.40
18.5	141,200		0.0000	1.0000	11.40
19.5	141,200		0.0000	1.0000	11.40
20.5	72,330		0.0000	1.0000	11.40
21.5	74,513	3,240	0.0435	0.9565	11.40
22.5	73,670	48,966	0.6647	0.3353	10.90
23.5	24,705		0.0000	1.0000	3.65
24.5	30,878		0.0000	1.0000	3.65
25.5	30,878		0.0000	1.0000	3.65
26.5	75,243		0.0000	1.0000	3.65
27.5	85,528		0.0000	1.0000	3.65
28.5	85,528	8,039	0.0940	0.9060	3.65
29.5	148,633		0.0000	1.0000	3.31
30.5	149,711	147	0.0010	0.9990	3.31
31.5	149,564	784	0.0052	0.9948	3.31
32.5	150,206	10,068	0.0670	0.9330	3.29
33.5	140,139		0.0000	1.0000	3.07
34.5	140,139		0.0000	1.0000	3.07
35.5	142,416	7,268	0.0510	0.9490	3.07
36.5	135,149	100	0.0007	0.9993	2.91
37.5	139,039	954	0.0069	0.9931	2.91
38.5	138,915	6,032	0.0434	0.9566	2.89

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 23.3 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	132,882		0.0000	1.0000	2.76
40.5	134,871	6,173	0.0458	0.9542	2.76
41.5	128,698	1,000	0.0078	0.9922	2.63
42.5	127,864		0.0000	1.0000	2.61
43.5	127,947	8,667	0.0677	0.9323	2.61
44.5	119,280		0.0000	1.0000	2.43
45.5	119,280	63,877	0.5355	0.4645	2.43
46.5	53,220	146	0.0027	0.9973	1.13
47.5	53,073		0.0000	1.0000	1.13
48.5	53,073	1,593	0.0300	0.9700	1.13
49.5	51,480		0.0000	1.0000	1.10
50.5	51,480		0.0000	1.0000	1.10
51.5	7,215	2,278	0.3157	0.6843	1.10
52.5	4,937		0.0000	1.0000	0.75
53.5	4,937		0.0000	1.0000	0.75
54.5	7,092		0.0000	1.0000	0.75
55.5	7,092		0.0000	1.0000	0.75
56.5	7,092		0.0000	1.0000	0.75
57.5	7,172		0.0000	1.0000	0.75
58.5	38,053	3,755	0.0987	0.9013	0.75
59.5	34,298		0.0000	1.0000	0.68
60.5	34,298		0.0000	1.0000	0.68
61.5	34,298		0.0000	1.0000	0.68
62.5	32,262		0.0000	1.0000	0.68
63.5	31,432		0.0000	1.0000	0.68
64.5	31,432		0.0000	1.0000	0.68
65.5	29,443		0.0000	1.0000	0.68
66.5	29,443		0.0000	1.0000	0.68
67.5	31,152		0.0000	1.0000	0.68
68.5	31,070		0.0000	1.0000	0.68
69.5	31,104		0.0000	1.0000	0.68
70.5	31,104	2,155	0.0693	0.9307	0.68
71.5	30,742		0.0000	1.0000	0.63
72.5	30,974		0.0000	1.0000	0.63
73.5	34,743	80	0.0023	0.9977	0.63
74.5	35,268	27,126	0.7691	0.2309	0.63
75.5	8,245		0.0000	1.0000	0.15
76.5	8,514		0.0000	1.0000	0.15
77.5	18,275		0.0000	1.0000	0.15
78.5	18,275		0.0000	1.0000	0.15

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 23.3 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	18,275		0.0000	1.0000	0.15
80.5	34,125		0.0000	1.0000	0.15
81.5	56,154		0.0000	1.0000	0.15
82.5	68,446		0.0000	1.0000	0.15
83.5	70,052		0.0000	1.0000	0.15
84.5	71,480		0.0000	1.0000	0.15
85.5	76,817		0.0000	1.0000	0.15
86.5	88,422		0.0000	1.0000	0.15
87.5	99,059	2,756	0.0278	0.9722	0.15
88.5	96,303		0.0000	1.0000	0.15
89.5	103,103		0.0000	1.0000	0.15
90.5	103,103	791	0.0077	0.9923	0.15
91.5	104,618	1,086	0.0104	0.9896	0.15
92.5	101,989	269	0.0026	0.9974	0.15
93.5	101,720	9,761	0.0960	0.9040	0.15
94.5	91,925		0.0000	1.0000	0.14
95.5	92,508		0.0000	1.0000	0.14
96.5	92,479	15,850	0.1714	0.8286	0.14
97.5	76,397	18,054	0.2363	0.7637	0.12
98.5	56,723	12,291	0.2167	0.7833	0.09
99.5	45,420	1,606	0.0354	0.9646	0.07
100.5	43,813	1,428	0.0326	0.9674	0.07
101.5	42,385	3,458	0.0816	0.9184	0.07
102.5	38,927	11,605	0.2981	0.7019	0.06
103.5	42,967	10,636	0.2475	0.7525	0.04
104.5	32,331		0.0000	1.0000	0.03
105.5	32,331	6,823	0.2110	0.7890	0.03
106.5	22,050		0.0000	1.0000	0.02
107.5	22,050	16	0.0007	0.9993	0.02
108.5	22,034	166	0.0075	0.9925	0.02
109.5	21,868	709	0.0324	0.9676	0.02
110.5	21,159		0.0000	1.0000	0.02
111.5	21,159		0.0000	1.0000	0.02
112.5	21,159		0.0000	1.0000	0.02
113.5	21,159		0.0000	1.0000	0.02
114.5	21,159	2,149	0.1016	0.8984	0.02
115.5	19,010	1,200	0.0631	0.9369	0.02
116.5	15,520		0.0000	1.0000	0.02
117.5	15,520		0.0000	1.0000	0.02
118.5	15,520		0.0000	1.0000	0.02

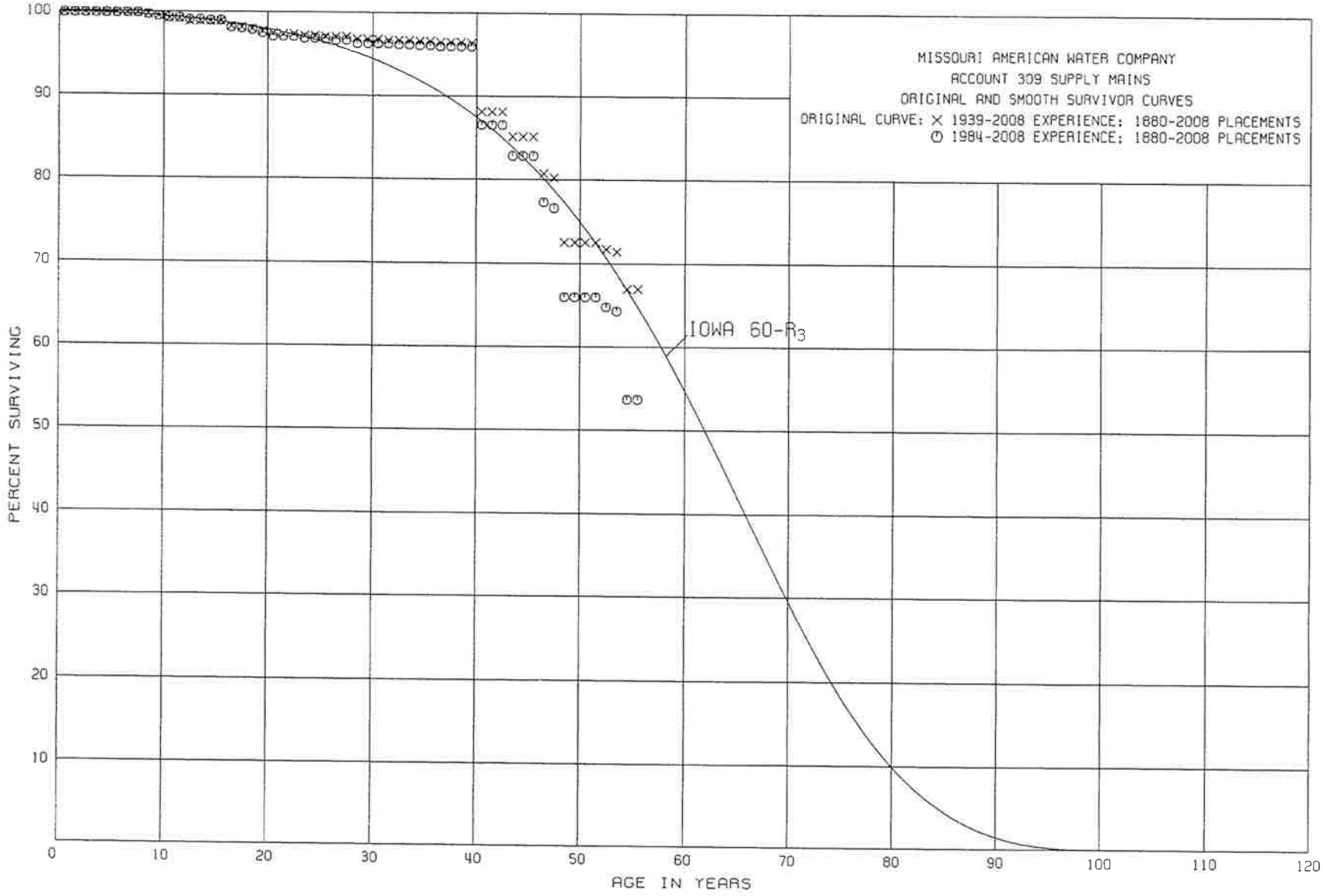
MISSOURI AMERICAN WATER COMPANY

ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 23.3 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	15,520	14,937	0.9624	0.0376	0.02
120.5					0.00
TOTAL	22,200,245	1,316,798			


MISSOURI AMERICAN WATER COMPANY
ACCOUNT 309 SUPPLY MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1939-2008 EXPERIENCE: 1880-2008 PLACEMENTS
Ⓣ 1984-2008 EXPERIENCE: 1880-2008 PLACEMENTS
IOWA 60-R3
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE

AVG AGE RET 49.4 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	21,270,422	846	0.0000	1.0000	100.00
0.5	21,142,246		0.0000	1.0000	100.00
1.5	17,281,700	134	0.0000	1.0000	100.00
2.5	17,278,433	1,157	0.0001	0.9999	100.00
3.5	17,277,276	2,020	0.0001	0.9999	99.99
4.5	17,275,256	840	0.0000	1.0000	99.98
5.5	17,239,635	5,982	0.0003	0.9997	99.98
6.5	17,114,913	13,110	0.0008	0.9992	99.95
7.5	17,125,857	30,763	0.0018	0.9982	99.87
8.5	7,270,752	11,476	0.0016	0.9984	99.69
9.5	7,255,237	26,892	0.0037	0.9963	99.53
10.5	7,167,869	9	0.0000	1.0000	99.16
11.5	7,136,805	16,190	0.0023	0.9977	99.16
12.5	7,120,498	900	0.0001	0.9999	98.93
13.5	7,082,583	983	0.0001	0.9999	98.92
14.5	7,021,514	2,071	0.0003	0.9997	98.91
15.5	4,442,213	26,220	0.0059	0.9941	98.88
16.5	4,375,924	3,277	0.0007	0.9993	98.30
17.5	4,111,195	8,768	0.0021	0.9979	98.23
18.5	4,052,748	12,057	0.0030	0.9970	98.02
19.5	3,897,598	9,535	0.0024	0.9976	97.73
20.5	3,846,158	2,967	0.0008	0.9992	97.50
21.5	3,826,130	80	0.0000	1.0000	97.42
22.5	3,794,168	7,617	0.0020	0.9980	97.42
23.5	3,040,406	2,166	0.0007	0.9993	97.23
24.5	2,730,349	1,033	0.0004	0.9996	97.16
25.5	2,727,433	985	0.0004	0.9996	97.12
26.5	2,660,392		0.0000	1.0000	97.08
27.5	2,657,324	9,017	0.0034	0.9966	97.08
28.5	2,579,889		0.0000	1.0000	96.75
29.5	2,572,856		0.0000	1.0000	96.75
30.5	2,572,617	862	0.0003	0.9997	96.75
31.5	2,484,676	1,000	0.0004	0.9996	96.72
32.5	2,477,376	296	0.0001	0.9999	96.68
33.5	2,509,483	2,861	0.0011	0.9989	96.67
34.5	2,503,529		0.0000	1.0000	96.56
35.5	2,297,539	1,115	0.0005	0.9995	96.56
36.5	2,254,472		0.0000	1.0000	96.51
37.5	1,821,560	368	0.0002	0.9998	96.51
38.5	1,820,078	1,159	0.0006	0.9994	96.49

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 49.4 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,817,290	156,814	0.0863	0.9137	96.43
40.5	1,197,596	569	0.0005	0.9995	88.11
41.5	1,177,267		0.0000	1.0000	88.07
42.5	1,176,874	40,154	0.0341	0.9659	88.07
43.5	1,166,963		0.0000	1.0000	85.07
44.5	1,062,942		0.0000	1.0000	85.07
45.5	1,046,732	53,362	0.0510	0.9490	85.07
46.5	985,385	6,625	0.0067	0.9933	80.73
47.5	860,640	82,798	0.0962	0.9038	80.19
48.5	715,382	38	0.0001	0.9999	72.48
49.5	639,152		0.0000	1.0000	72.47
50.5	639,152		0.0000	1.0000	72.47
51.5	635,115	6,852	0.0108	0.9892	72.47
52.5	511,971	2,236	0.0044	0.9956	71.69
53.5	342,270	21,053	0.0615	0.9385	71.37
54.5	314,826		0.0000	1.0000	66.98
55.5	314,826	102	0.0003	0.9997	66.98
56.5	305,089		0.0000	1.0000	66.96
57.5	305,223		0.0000	1.0000	66.96
58.5	339,671		0.0000	1.0000	66.96
59.5	339,671	225	0.0007	0.9993	66.96
60.5	339,446		0.0000	1.0000	66.91
61.5	308,552	23,572	0.0764	0.9236	66.91
62.5	284,981	5,138	0.0180	0.9820	61.80
63.5	249,236		0.0000	1.0000	60.69
64.5	249,236		0.0000	1.0000	60.69
65.5	249,236		0.0000	1.0000	60.69
66.5	249,236		0.0000	1.0000	60.69
67.5	249,236	253	0.0010	0.9990	60.69
68.5	248,983		0.0000	1.0000	60.63
69.5	248,983	12,300	0.0494	0.9506	60.63
70.5	236,684		0.0000	1.0000	57.63
71.5	236,684		0.0000	1.0000	57.63
72.5	236,684		0.0000	1.0000	57.63
73.5	236,684	59	0.0002	0.9998	57.63
74.5	236,625		0.0000	1.0000	57.62
75.5	236,625		0.0000	1.0000	57.62
76.5	236,625	117	0.0005	0.9995	57.62
77.5	236,507		0.0000	1.0000	57.59
78.5	235,949	14,628	0.0620	0.9380	57.59

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 49.4 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	221,321		0.0000	1.0000	54.02
80.5	221,321		0.0000	1.0000	54.02
81.5	221,321		0.0000	1.0000	54.02
82.5	221,321		0.0000	1.0000	54.02
83.5	221,321		0.0000	1.0000	54.02
84.5	221,321	58,264	0.2633	0.7367	54.02
85.5	163,057		0.0000	1.0000	39.80
86.5	163,057		0.0000	1.0000	39.80
87.5	163,057		0.0000	1.0000	39.80
88.5	163,057	30	0.0002	0.9998	39.80
89.5	163,027	3,205	0.0197	0.9803	39.79
90.5	159,822		0.0000	1.0000	39.01
91.5	159,822	144	0.0009	0.9991	39.01
92.5	159,678		0.0000	1.0000	38.97
93.5	159,678		0.0000	1.0000	38.97
94.5	159,678	34,101	0.2136	0.7864	38.97
95.5	125,577		0.0000	1.0000	30.65
96.5	106,528		0.0000	1.0000	30.65
97.5	106,528		0.0000	1.0000	30.65
98.5	106,528		0.0000	1.0000	30.65
99.5	106,528	729	0.0068	0.9932	30.65
100.5	105,799		0.0000	1.0000	30.44
101.5	105,799		0.0000	1.0000	30.44
102.5	105,799		0.0000	1.0000	30.44
103.5	105,799		0.0000	1.0000	30.44
104.5	105,799	30,331	0.2867	0.7133	30.44
105.5	75,467	39	0.0005	0.9995	21.71
106.5	75,428	3,575	0.0474	0.9526	21.70
107.5	45,725		0.0000	1.0000	20.67
108.5	45,725	293	0.0064	0.9936	20.67
109.5	45,432		0.0000	1.0000	20.54
110.5	45,432		0.0000	1.0000	20.54
111.5	45,362		0.0000	1.0000	20.54
112.5	45,362		0.0000	1.0000	20.54
113.5	45,362		0.0000	1.0000	20.54
114.5	45,362	3,911	0.0862	0.9138	20.54
115.5	41,451		0.0000	1.0000	18.77
116.5	41,451		0.0000	1.0000	18.77
117.5	34,583		0.0000	1.0000	18.77
118.5	34,583		0.0000	1.0000	18.77

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 49.4 1 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1939-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	34,583	29,368	0.8492	0.1508	18.77
120.5	5,215		0.0000	1.0000	2.83
121.5	5,215		0.0000	1.0000	2.83
122.5	5,215		0.0000	1.0000	2.83
123.5	5,215		0.0000	1.0000	2.83
124.5	5,215		0.0000	1.0000	2.83
125.5	5,215		0.0000	1.0000	2.83
126.5	5,215		0.0000	1.0000	2.83
127.5	5,081		0.0000	1.0000	2.83
128.5					2.83
TOTAL	310,582,775	795,641			

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE

AVG AGE RET 51.6 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	18,576,466	260	0.0000	1.0000	100.00
0.5	18,451,423		0.0000	1.0000	100.00
1.5	14,676,715		0.0000	1.0000	100.00
2.5	14,683,955	1,157	0.0001	0.9999	100.00
3.5	14,751,217		0.0000	1.0000	99.99
4.5	14,758,850		0.0000	1.0000	99.99
5.5	14,724,452	5,982	0.0004	0.9996	99.99
6.5	14,696,758	12,888	0.0009	0.9991	99.95
7.5	14,690,170	24,324	0.0017	0.9983	99.86
8.5	4,816,336	10,468	0.0022	0.9978	99.69
9.5	4,816,980	6,807	0.0014	0.9986	99.47
10.5	4,958,892	9	0.0000	1.0000	99.33
11.5	4,969,792	14,044	0.0028	0.9972	99.33
12.5	5,427,999		0.0000	1.0000	99.05
13.5	5,398,044	983	0.0002	0.9998	99.05
14.5	5,338,604	271	0.0001	0.9999	99.03
15.5	3,234,248	26,220	0.0081	0.9919	99.02
16.5	3,191,587	3,277	0.0010	0.9990	98.22
17.5	2,927,452	7,457	0.0025	0.9975	98.12
18.5	2,870,404	12,057	0.0042	0.9958	97.87
19.5	2,821,503	9,535	0.0034	0.9966	97.46
20.5	2,786,365	211	0.0001	0.9999	97.13
21.5	2,777,077		0.0000	1.0000	97.12
22.5	2,870,652	5,471	0.0019	0.9981	97.12
23.5	2,129,101	1,967	0.0009	0.9991	96.94
24.5	1,870,995	1,033	0.0006	0.9994	96.85
25.5	1,868,079	985	0.0005	0.9995	96.79
26.5	1,826,236		0.0000	1.0000	96.74
27.5	1,946,537	9,017	0.0046	0.9954	96.74
28.5	2,043,320		0.0000	1.0000	96.29
29.5	2,096,491		0.0000	1.0000	96.29
30.5	2,256,203	862	0.0004	0.9996	96.29
31.5	2,260,697	1,000	0.0004	0.9996	96.25
32.5	2,253,397	296	0.0001	0.9999	96.21
33.5	2,251,403	2,861	0.0013	0.9987	96.20
34.5	2,245,449		0.0000	1.0000	96.07
35.5	2,042,750	1,115	0.0005	0.9995	96.07
36.5	2,030,577		0.0000	1.0000	96.02
37.5	1,567,878	368	0.0002	0.9998	96.02
38.5	1,596,274	624	0.0004	0.9996	96.00

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 51.6 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,594,020	156,814	0.0984	0.9016	95.96
40.5	974,326	569	0.0006	0.9994	86.52
41.5	953,928		0.0000	1.0000	86.47
42.5	953,534	40,154	0.0421	0.9579	86.47
43.5	913,517		0.0000	1.0000	82.83
44.5	809,496		0.0000	1.0000	82.83
45.5	793,339	53,362	0.0673	0.9327	82.83
46.5	731,992	6,625	0.0091	0.9909	77.26
47.5	600,086	82,798	0.1380	0.8620	76.56
48.5	454,828	38	0.0001	0.9999	65.99
49.5	378,598		0.0000	1.0000	65.98
50.5	378,598		0.0000	1.0000	65.98
51.5	374,561	6,852	0.0183	0.9817	65.98
52.5	274,936	2,236	0.0081	0.9919	64.77
53.5	128,190	21,053	0.1642	0.8358	64.25
54.5	100,746		0.0000	1.0000	53.70
55.5	100,746		0.0000	1.0000	53.70
56.5	91,110		0.0000	1.0000	53.70
57.5	91,110		0.0000	1.0000	53.70
58.5	91,363		0.0000	1.0000	53.70
59.5	91,363	225	0.0025	0.9975	53.70
60.5	91,139		0.0000	1.0000	53.57
61.5	60,245	23,572	0.3913	0.6087	53.57
62.5	36,673	5,138	0.1401	0.8599	32.61
63.5	929		0.0000	1.0000	28.04
64.5	929		0.0000	1.0000	28.04
65.5	929		0.0000	1.0000	28.04
66.5	929		0.0000	1.0000	28.04
67.5	929	253	0.2723	0.7277	28.04
68.5	58,897		0.0000	1.0000	20.40
69.5	85,824	12,300	0.1433	0.8567	20.40
70.5	73,525		0.0000	1.0000	17.48
71.5	92,633		0.0000	1.0000	17.48
72.5	92,663		0.0000	1.0000	17.48
73.5	92,663	59	0.0006	0.9994	17.48
74.5	92,604		0.0000	1.0000	17.47
75.5	92,748		0.0000	1.0000	17.47
76.5	92,748	117	0.0013	0.9987	17.47
77.5	92,630		0.0000	1.0000	17.45
78.5	126,173	14,628	0.1159	0.8841	17.45

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 51.6 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	111,545		0.0000	1.0000	15.43
80.5	114,750		0.0000	1.0000	15.43
81.5	114,750		0.0000	1.0000	15.43
82.5	144,537		0.0000	1.0000	15.43
83.5	145,266		0.0000	1.0000	15.43
84.5	145,266	58,264	0.4011	0.5989	15.43
85.5	87,001		0.0000	1.0000	9.24
86.5	87,071		0.0000	1.0000	9.24
87.5	87,071		0.0000	1.0000	9.24
88.5	117,402	30	0.0003	0.9997	9.24
89.5	117,372	3,205	0.0273	0.9727	9.24
90.5	114,167		0.0000	1.0000	8.99
91.5	114,167	144	0.0013	0.9987	8.99
92.5	121,185		0.0000	1.0000	8.98
93.5	121,185		0.0000	1.0000	8.98
94.5	121,185	34,101	0.2814	0.7186	8.98
95.5	87,084		0.0000	1.0000	6.45
96.5	68,034		0.0000	1.0000	6.45
97.5	68,034		0.0000	1.0000	6.45
98.5	71,945		0.0000	1.0000	6.45
99.5	71,945	729	0.0101	0.9899	6.45
100.5	71,216		0.0000	1.0000	6.38
101.5	71,216		0.0000	1.0000	6.38
102.5	71,350		0.0000	1.0000	6.38
103.5	105,799		0.0000	1.0000	6.38
104.5	105,799	30,331	0.2867	0.7133	6.38
105.5	75,467	39	0.0005	0.9995	4.55
106.5	75,428	3,575	0.0474	0.9526	4.55
107.5	45,725		0.0000	1.0000	4.33
108.5	45,725	293	0.0064	0.9936	4.33
109.5	45,432		0.0000	1.0000	4.30
110.5	45,432		0.0000	1.0000	4.30
111.5	45,362		0.0000	1.0000	4.30
112.5	45,362		0.0000	1.0000	4.30
113.5	45,362		0.0000	1.0000	4.30
114.5	45,362	3,911	0.0862	0.9138	4.30
115.5	41,451		0.0000	1.0000	3.93
116.5	41,451		0.0000	1.0000	3.93
117.5	34,583		0.0000	1.0000	3.93
118.5	34,583		0.0000	1.0000	3.93

MISSOURI AMERICAN WATER COMPANY

ACCOUNT 309 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

AVG AGE RET 51.6 2 EXPERIENCE ANALYSIS
PLACEMENT BAND 1880-2008 EXPERIENCE BAND 1984-2008

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	34,583	29,368	0.8492	0.1508	3.93
120.5	5,215		0.0000	1.0000	0.59
121.5	5,215		0.0000	1.0000	0.59
122.5	5,215		0.0000	1.0000	0.59
123.5	5,215		0.0000	1.0000	0.59
124.5	5,215		0.0000	1.0000	0.59
125.5	5,215		0.0000	1.0000	0.59
126.5	5,215		0.0000	1.0000	0.59
127.5	5,081		0.0000	1.0000	0.59
128.5					0.59
TOTAL	246,966,761	752,332			